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INDEX

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30



SUBJECT INDEX



A

ABDOMINAL DISEASE

- Acute Abdominal Disease, Oct. 1940. J. C. Patterson, Cuthbert 507

ANESTHESIA

- The Use of Pentothal Sodium-Oxygen Anesthesia as a Total Anesthetic Agent in Major Surgical Procedures, Oct. 1940. T. C. Davison and Fred F. Rudder, Atlanta..... 475
- Anesthesia in Rectal Surgery, Apr. 1940. A. M. Phillips, Macon 209

APPENDICITIS

- Appendicitis Mortality, July 1940. J. C. Patterson, Cuthbert 371

ARNOLD (DOCTOR)

- Dr. Richard Dennis Arnold, 1803-1876, Mch. 1940. Frank K. Boland, Atlanta..... 160

ARTERY

- Bleeding from the Appendiceal Artery—Report of Case, June 1940. Frank Eskridge and I. B. Cantor, Atlanta 325

AUGUSTA

- Augusta—From Trading Post to Medical Center, Apr. 1940. Joseph Krafka, Jr., Augusta..... 232

AUXILIARY

- The Woman's Auxiliary, June 1940. J. C. Patterson, Cuthbert 324

B

BASSETT

- Dr. Victor Hugo Bassett, 1871-1938, Mch. 1940. Frank K. Boland, Atlanta..... 161

BILIARY TRACT

- Concerning Biliary Tract Disease—Special Reference to Acute Cholecystitis, Apr. 1940. C. W. Roberts, Atlanta 225

BIOPSIES

- The Methods and Value of Biopsies in Malignant Tumors, Feb. 1940. J. Elliott Scarborough, Emory University 63

BRUCELLOSIS

- Chronic Brucellosis—Report of Two Cases in Children Diagnosed by Intracutaneous Tests, May 1940. Helen W. Bellhouse, Thomasville.... 260

C

CANCER

- The Choice of Treatment of Cancer of the Breast, Feb. 1940. Enoch Callaway, LaGrange..... 53
- Cancer of the Cervix, Feb. 1940. Arthur D. Little and J. J. Collins, Thomasville..... 57
- Progress in Knowledge and Control of Cancer, Nov. 1940. Kenneth M. Lynch, Charleston, S. C. 521
- State-Aid Cancer Clinics—Methods and Records, Feb. 1940. J. L. Campbell, Atlanta..... 45
- State-Aid in Cancer Control in Georgia, Feb. 1940. Chas. C. Harrold, Macon..... 48

- Treatment of Skin Cancer in Ambulatory Patients—Report and Review, Feb. 1940. Howard Hailey and Hugh Hailey, Atlanta..... 50

CARCINOMA

- Carcinoma of the Prostate, Oct. 1940. Montague L. Boyd and John B. Nuckolls, Atlanta..... 493

CHRISTMAS SPIRIT

- World War-Committee Activities, Dec. 1940. J. C. Patterson, Cuthbert..... 573

CLUBFEET

- Some Comments on the Treatment of Congenital Clubfeet, Apr. 1940. J. H. Kite, Atlanta..... 212

COLON

- Palliative Procedures for Inoperable Malignant Lesions of the Colon, Feb. 1940. William D. Wilson, Savannah 77

CONCEPTION

- Prevention of Conception in Bitches by Injection of Estrone, July 1940. G. Lombard Kelly, Augusta, and Leon F. Whitney, D. V. M., Orange, Conn. 368

CONSTITUTION AND BY-LAWS

CONSTITUTION

- Article I.—Name of the Association..... 188
- Article II.—Purposes of the Association..... 188
- Article III.—Component Societies 188
- Article IV.—Composition of the Association..... 188
- Article V.—House of Delegates..... 188
- Article VI.—Council 188
- Article VII.—Sessions and Meetings..... 188
- Article VIII.—Sections and District Societies..... 189
- Article IX.—Officers 189
- Article X.—Funds and Expenses..... 189
- Article XI.—Ratification 189
- Article XII.—The Seal 189
- Article XIII.—Amendments 189

BY-LAWS

- Chapter I.—Membership 189
- Chapter II.—General Meetings 190
- Chapter III.—House of Delegates..... 190
- Chapter IV.—Duties of Officers..... 191
- Chapter V.—Council 191
- Chapter VI.—Committees 192
- Chapter VII.—County Societies 193
- Chapter VIII.—Rules and Ethics..... 194
- Chapter IX.—Amendments 194
- Resolutions 194

D

DIAGNOSES

- Diagnoses of Interest—Report of Two Cases, June 1940. Paul S. Kemp, Macon..... 321

DIARRHEA

- Infantile Diarrhea, Sept. 1940. C. Dixon Fowler, Atlanta 442
- Treatment of Summer Diarrhea in Infants, Aug. 1940. Harry T. Teasley, Hartwell..... 413

DIRECTORY

Medical Association of Georgia, 1940..... 531

DOCTOR

A Layman Looks at the Family Doctor, Nov. 1940.
Miss Helen Estes, Gainesville..... 540

E

EDEMA

The Treatment of Cardiac Edema, Sept. 1940.
Evert A. Bancker, Jr., Atlanta..... 436

EDITORIALS

AMERICAN MEDICAL ASSOCIATION

Fellows of the Scientific Assembly of the A.M.A. 416
Official Call 283
The New York Meeting of the A.M.A. 375
Platform of the A.M.A. 32

APPENDICITIS

Appendicitis 503

AWARDS

Awards 280

BIRTHS

United States Births, 1939..... 374

BOOK

A Medical Book..... 420

BUNCE

Allen Hamilton Bunce, President-Elect, 1940-1941 281

BURNS

Burns 32

CANCER

Cancer 326
Cancer 546
Cancer Must Be Controlled..... 20

COURT

Court of Appeals..... 547

DEATH

Infant Death Rate, 1939..... 373

DEFENSE

The Doctor and His Country's Defense..... 545

DISEASE

Some Common Fungous Diseases of the Skin..... 510

ETHICS

How About Your Ethics?..... 372

FEVER

Rheumatic Fever 453

FOOD

Contaminated Food 462

FOOT

Foot Trouble 503

FULTON COUNTY MEDICAL SOCIETY

Plans New Home..... 81

GOUT

Gout 280

GRANULOMA

Nonspecific Granuloma (Regional Ileitis, Typh-
litis, etc.) 460

HEALTH AND MEDICAL FACILITIES

Health and Medical Facilities Being Mobilized... 544

HEMORRHAGE

The Control of Hemorrhage..... 81

HOME ENVIRONMENT

Essentials of a Healthful Home Environment.... 542

INSTRUMENTS

U. S. Exports of Scientific and Laboratory Instru-

ments and Apparatus Continue to Gain..... 461

INVESTMENTS

Doctors and Investments..... 574

MEDICAL STANDARDS

Medical Standards Now Provable Only by Phy-
sicians 547

OVARY

The Gonadotropins and the Human Ovary..... 509

PARADOX

A Paradox 416

POSTPARTUM

Postpartum Care 546

PREPAREDNESS

Medical Preparedness 372
Medical Preparedness 416
Resolutions Adopted by the Committee on Medical
Preparedness of the American Medical Associa-
tion, July 19, 1940..... 418-419

PROSTATIC CALCULI

Primary Prostatic Calculi in Adolescents and Men
of Middle Age 574

PSYCHIATRIST

What Is a Psychiatrist?..... 282

RADIUM

New Radium Control Instruments Designed at
Standards Bureau 456

RED CROSS

American Red Cross Plans Nationwide Enrollment
of Voluntary Blood Donors..... 419

SESSION OF THE ASSOCIATION

Ninety-First Annual Session of the Medical Asso-
ciation of Georgia..... 81
Savannah Session, 1940..... 280

TROUBLE

Another Georgia Physician in Trouble..... 42

HOME

Physicians' Home 33

TUBERCULOSIS

Chronic Non-Tuberculous Infections..... 240

ENDOCRINE

Some Common Endocrine Disorders in the Female
—Special Reference to Treatment with Male
Sex Hormone, Feb. 1940. Robert B. Greenblatt
and Richard Torpin, Augusta..... 63

F

FEVER

Brill's Fever, Feb. 1940. Wm. H. Myers, Sa-
vannah 79
Rocky Mountain Spotted Fever—Case Report, Oct.
1940. Amey Chappell, Atlanta..... 504

FISTULA

Congenital Preauricular Fistula, Aug. 1940. J. D.
Martin, Jr., Atlanta..... 411

FLUID LOSS

Treatment of Body Fluid Loss, Oct. 1940. Frank
K. Boland, Atlanta..... 505

G

GASTRITIS

Chronic Superficial Gastritis, Feb. 1940. Crawford
F. Barnett, Atlanta..... 73

GEORGIA MEDICAL SOCIETY

Pages from the History of the Georgia Medical

Society of Savannah, Georgia, Mch. 1940. Victor H. Bassett, Savannah.....	122
GONOCOCCEMIA	
Patient Unsuccessfully Treated with Sulfanilamide, May 1940. J. F. Schneider and Joseph C. Massee, Atlanta	276
H	
HEALTH PROBLEMS	
Public Health Problems and Their Relation to Medical Care in Georgia, July 1940. T. F. Abercrombie, Atlanta	343
HEART DISEASE	
Functional Heart Disease, Oct. 1940. J. A. Redfearn, Albany	436
HEART FAILURE	
Use of Salyrgan-Theophylline Suppositories in Congestive Heart Failure, Aug. 1940. T. Sterling Claiborne and R. Bruce Logue, Atlanta.....	399
HISTORY	
Early Medical History of Georgia—Georgia as a Colony, Mch. 1940. J. Calvin Weaver, Atlanta	89
HOSPITALS	
Bulloch County Hospital, July 1940. A. J. Mooney, Statesboro	359
City-County Hospital (LaGrange), July 1940. Enoch Callaway, LaGrange.....	360
Distribution of Hospitals, July 1940. C. W. Roberts, Atlanta	354
Savannah Hospitals, Savannah, Mch. 1940.....	162
Stephens County Hospital, July 1940. Clarence L. Ayers, Toccoa	362
Ware County Hospital, July 1940. B. H. Minchew, Waycross	356
HOUSE OF DELEGATES	
Proceedings of the House of Delegates of the Medical Association of Georgia—Ninety-First Annual Session, Savannah, April 23-26, 1940....	311
HYMEN	
Imperforate Hymen with Hematocolpos—Report of Case, Nov. 1940. Geo. A. Holloway, Atlanta	535
HYPOMETABOLISM AND MYXEDEMA	
Nov. 1940. Martin Van Buren Teem, Marietta....	528
I	
INDEX	
Author's Index	602
Subject Index	578
INFECTION	
The Prevention of Infection by Air-Borne Bacteria of Operative Wounds, Aug. 1940. Deryl Hart and Randolph Jones, Jr., Durham, N. C.....	401
JOURNAL	
Volume XXIX, 1940.....	597
L	
LE CONTE (Doctor)	
The Medical Career of John Le Conte, 1818-1891; who was a Physician in Savannah from 1842 to 1846 with a Discussion of the Status of Medical Service at that time, Mch. 1940. Victor H. Bassett, Savannah	149
The Medical Career of John LeConte, 1818-1891, Mch. 1940. Mrs. Victor H. Bassett, Savannah....	149
LONG, CRAWFORD W. (Doctor)	
Crawford Williamson Long, Aug. 1940. Hon. James A. Farley, Washington, D. C.....	386
Dr. Crawford W. Long, Jan. 1940. Chas. C. Harrold, Macon	23
Doctor Crawford W. Long—Pioneer in Medical Research, Aug. 1940. Wm. H. Myers, Savannah	388
Stamp Issue Honoring a Physician, Apr. 1940 Wm. H. Myers, Savannah.....	239
M	
MALIGNANCIES RELATED TO VENEREAL DISEASES	
Malignancies Related to Venereal Diseases—Development of Carcinoma Secondary to Venereal Lymphogranuloma, and Carcinoma, Feb. 1940. Edward S. Cardwell, Jr. and Edgar R. Pund, Augusta	60
MEDICAL CARE	
The Problem of Medical Care as Seen by a County Health Officer, Apr. 1940. M. E. Groover, Jr., Quitman	216
Suggestions for the Improvement of Medical Care in Georgia, July 1940. James E. Paullin, Atlanta	364
MEDICAL HORIZONS	
Aug. 1940. Julian K. Quattlebaum, Savannah....	390
MEDICAL PROBLEMS	
Georgia's Medical Problems of 1940, July 1940. C. W. Strickler, Atlanta.....	341
MEDICINE	
Plantation Medicine, Mch. 1940. Victor H. Bassett, Savannah	112
Plantation Medicine—References to Works Consulted, Mch. 1940. Victor H. Bassett, Savannah	121
Medicine: Yesterday and Tomorrow, May 1940. Wm. H. Myers, Savannah.....	251
MEMORIAL	
The Good of Yesterday—Memorial Address, Sept. 1940. R. S. Leadingham, Atlanta	455
MENINGITIS	
Pneumococcic Meningitis Treated with Sulfapyridine and Antipneumococcic Type 1 Antiserum—Report of Case, Feb. 1940. Emery C. Herman, LaGrange	72
MENOMETRORRHAGIA	
The Therapy of Menometrorrhagia: 1. The Study of the Mechanism of Uterine Bleeding—2. The Study of the Postpartum Period, Oct. 1940. Robert B. Greenblatt, Augusta.....	481
MENTAL DISORDERS	
Recent Advances in the Treatment of Mental Disorders, May 1940. James N. Brawner and Albert F. Brawner, Atlanta.....	264
N	
NEURALGIA	
The Relief of Pain in Trigeminal Neuralgia, Apr. 1940. Exum Walker, Atlanta.....	222
O	
OFFICERS	
Officers, 1939-1940	175
Officers and Committees, 1939-1940.....	178
Officers, 1940-1941	280

Officers and Committees, 1940-1941.....	327
Officers and Committees, 1940-1941.....	578

P

PANCREATITIS	
Report of Cases, Oct. 1940. Guy J. Dillard, Columbus	499
PELLAGRA	
The Use of Nicotinic Acid in Pellagra and Other Conditions, Sept. 1940. Alvin E. Siegel, Macon	447
PEDIATRICIAN	
Reminiscences of a Georgia Pediatrician, June 1940. Samuel A. Visanska, Atlanta.....	295
PHYSICIANS	
The Status and Function of the Industrial Physician, Nov. 1940. Lloyd Noland, Fairfield, Ala.	525
Factors Involved in the Distribution of Physicians with Special Reference to Distribution in Georgia, July 1940. Alfred A. Weinstein and C. W. Roberts, Atlanta	346
PHYSICIANS AND PERIODS	
Two Physicians and Two Periods in the Medical History of Georgia—Appendix to Dr. Victor H. Bassett's Article on Dr. Alexander Jones, Mch. 1940. Mrs. Victor H. Bassett, Savannah.....	147
The Medical Career of John LeConte, 1818-1891. Mch. 1940. Mrs. Victor H. Bassett, Savannah....	149
PNEUMONIA	
Treatment of Pneumonia in Adults with Sulfapyridine, Dec. 1940. J. Fletcher Hanson, Macon	561
POLITICS AND THE PHYSICIAN	
Aug. 1940. Jack C. Norris, Atlanta.....	414
POSTGRADUATE STUDY	
Sept. 1940. J. C. Patterson, Cuthbert.....	457
POSTOPERATIVE CARE	
May 1940. J. G. McDaniel, Atlanta.....	255
PREPAREDNESS	
Aug. 1940. J. C. Patterson, Cuthbert.....	415
PRESIDENT'S KEY	
Presentation of the President's Key to Doctor William H. Myers, of Savannah, Nov. 1940. Allen H. Bunce, Atlanta	519
PRESIDENT'S MESSAGE	
Jan. 1940. Wm. H. Myers, Savannah.....	31
PROCTOLOGIC	
Simple Proctologic Procedures, Apr. 1940. C. E. Hall, Jr., Atlanta.....	205
PROGRAM	
Program for the Savannah Session—April 23-26, 1940	178

Q

QUININE	
Further Observation on the Antenatal Use of Quinine, Oct. 1940. Linton Smith, Atlanta.....	502

R

REMEDIES	
Popular Remedies Used by Southern People—From Reports of Public Health Nurses, Midwives and Other Sources, Mch. 1940. Victor H. Bassett, Savannah	122

S

SALYRGAN-THEOPHYLLINE	
Salyrgan-Theophylline by Mouth, Aug. 1940. L. Minor Blackford, Atlanta.....	397
SESSION OF THE ASSOCIATION	
The Ninety-First Annual Session, May 1940. J. C. Patterson, Cuthbert	278
SINUS	
The Hyperactive Carotid Sinus Reflex—Report of Case, Aug. 1940. R. F. Slaughter, Augusta.....	403
SOUTHERN MEDICAL COLLEGE	
Founding of the Southern Medical College—Events Preceding Its Organization, May 1940. Mr. Gregory Murphy, Atlanta.....	273
SPLEEN	
Rupture of the Spleen—Report of Case, Jan. 1940. Harry L. Cheves, Union Point	6
STERILITY	
Etiologic Factors of Sterility in the Male—Report of Case, May 1940. Charles Rieser, Atlanta....	269
Treatment of Sterility, Jan. 1940. C. B. Upshaw, Atlanta	1
SULFANILAMIDE	
Sulfanilamide and Its Derivatives, Sept. 1940. Eustace A. Allen, Atlanta.....	429
SULFANILAMIDE AND SULFAPYRIDINE	
The Use of Sulfanilamide and Sulfapyridine in Pediatric Practice, Jan. 1940. Joseph Yampolsky, Atlanta	9
SYPHILIS	
Intensive Fractional Treatment of Early Syphilis—A Preliminary Report, Sept. 1940. John S. Howkins, Savannah	452
What Constitutes Adequate Treatment of Syphilis, Jan. 1940. Samuel J. Sinkoe, Atlanta.....	28

T

THROMBOPHLEBITIS	
Nov. 1940. J. C. Patterson, Cuthbert.....	543
TUBERCULOSIS	
Tuberculosis of the Bladder, Aug. 1940. Stephen T. Brown, S. Ross Brown and Fred B. Hodges, Atlanta	405
Tuberculosis of the Bone, Nov. 1940. H. W. Jernigan, Atlanta	537
TULAREMIA	
Sulfanilamide in the Treatment of Tularemia—Further Studies, July 1940. Walker L. Curtis, College Park	369

V

VENEREAL DISEASES	
Therapy of the Third, Fourth and Fifth Venereal Diseases, Oct. 1940. Marion T. Benson, Jr., and J. A. Henry, Atlanta.....	489

W

WHITE AND JONES (Doctors)	
Two Physicians and Two Periods in the Medical History of Georgia—Lives of Joshua Elder White and Dr. Alexander Jones, Mch. 1940. Victor H. Bassett, Savannah.....	137

AUTHORS' INDEX

- A**
- ABERCROMBIE, T. F., Atlanta
Public Health Problems and Their Relation to
Medical Care in Georgia, July 1940..... 343
- ALLEN, EUSTACE A., Atlanta
Sulfanilamide and Its Derivatives, Sept. 1940..... 429
- AYERS, CLARENCE L., Toccoa
Stephens County Hospital, July 1940..... 362
- B**
- BANCKER, EVERT A., JR., Atlanta
The Treatment of Cardiac Edema, Sept. 1940..... 436
- BARNETT, CRAWFORD F., Atlanta
Chronic Superficial Gastritis, Feb. 1940 73
- BASSETT, VICTOR H., Savannah
Pages from the History of the Georgia Medical
Society of Savannah, Georgia, Mch. 1940..... 122
- The Medical Career of John LeConte, 1818-1891:
who was a Physician in Savannah from 1842-
1846 with a Discussion of the Status of Medical
Service at That Time, Mch. 1940..... 149
- Plantation Medicine, Mch. 1940..... 112
- Plantation Medicine—References to Works Con-
sulted, Mch. 1940..... 121
- Popular Remedies Used by Southern People—
From Reports of Public Health Nurses, Mid-
wives and Other Sources, Mch. 1940 122
- Two Physicians and Two Periods in the Medical
History of Georgia—Lives of Joshua Elder
White and Dr. Alexander Jones, Mch. 1940. . 137
- BASSETT, MRS. VICTOR H., Savannah
Two Physicians and Two Periods in the Medical
History of Georgia—Appendix to Dr. Victor H.
Bassett's Article on Dr. Alexander Jones, Dr.
Joshua Elder White, Mch. 1940..... 147
- BELLHOUSE, HELEN W., Thomasville
Chronic Brucellosis—Report of Two Cases in
Children Diagnosed by Intracutaneous Tests,
May 1940 260
- BENSON, MARION T., JR., Atlanta
- HENRY, J. A., Atlanta
Therapy of the Third, Fourth and Fifth Venereal
Diseases, Oct. 1940..... 489
- BLACKFORD, L. MINOR, Atlanta
Salyrgan-Theophylline by Mouth, Aug. 1940..... 397
- BOLAND, FRANK K., Atlanta
Dr. Richard Dennis Arnold, 1809-1876, Mch. 1940 160
- Dr. Victor Hugo Bassett, 1871-1938, Mch. 1940.. 161
- Treatment of Body Fluid Loss, Oct. 1940..... 505
- BOYD, MONTAGUE L., Atlanta
- NUCKOLLS, JOHN B., Atlanta
Carcinoma of the Prostate, Oct. 1940..... 493
- BRAWNER, ALBERT F., Atlanta
- BRAWNER, JAMES N., Atlanta
Recent Advances in the Treatment of Mental Dis-
orders, May 1940..... 264
- BRAWNER, JAMES N., Atlanta
- BRAWNER, ALBERT F., Atlanta
Recent Advances in the Treatment of Mental Dis-
orders, May 1940..... 264
- BROWN, STEPHEN T., Atlanta
- BROWN, S. ROSS, Atlanta
HODGES, FRED B., Atlanta
Tuberculosis of the Bladder, Aug. 1940..... 405
- BROWN, S. ROSS, Atlanta
- BROWN, STEPHEN T., Atlanta
HODGES, FRED B., Atlanta
Tuberculosis of the Bladder, Aug. 1940..... 405
- BUNCE, ALLEN H., Atlanta
Presentation of the President's Key to Doctor
William H. Myers, of Savannah, Nov. 1940 ... 519
- C**
- CALLAWAY, ENOCH, LaGrange
The Choice of Treatment of Cancer of the Breast,
Feb. 1940 53
- City-County Hospital (LaGrange), July 1940..... 360
- CAMPBELL, J. L., Atlanta
State-Aid Cancer Clinics—Methods and Records,
Feb. 1940 45
- CANTOR, I. B., Atlanta
- ESKRIDGE, FRANK, Atlanta
Bleeding from the Appendiceal Artery—Report of
Case, June 1940..... 325
- CHAPPELL, AMEY, Atlanta
Rocky Mountain Spotted Fever—Case Report,
Oct. 1940 504
- CARDWELL, EDWARD S., Augusta
- PUND, EDGAR R., Augusta
Malignancies Related to Venereal Diseases—De-
velopment of Carcinoma Secondary to Venereal
Lymphogranuloma and Granuloma, and Carcinoma,
Feb. 1940 60
- CHEVES, HARRY L., Union Point
Rupture of the Spleen—Report of Case, Jan. 1940 6
- CLAIBORNE, T. STERLING, Atlanta
- LOGUE, R. BRUCE, Atlanta
Use of Salyrgan-Theophylline Suppositories in
Congestive Heart Failure, Aug. 1940..... 399
- COLLINS, J. J., Thomasville
- LITTLE, ARTHUR D., Thomasville
Cancer of the Cervix, Feb. 1940..... 57
- CURTIS, WALKER L., College Park
Sulfanilamide in the Treatment of Tularemia—
Further Studies, July 1940..... 369
- D**
- DAVISON, T. C., Atlanta
- RUDDER, FRED F., Atlanta
The Use of Pentothal Sodium-Oxygen Anesthesia
as a Total Anesthetic Agent in Major Surgical
Procedures, Oct. 1940..... 475
- DILLARD, GUY J., Columbus
Pancreatitis—Report of Cases, Oct. 1940..... 499

E

- ESKRIDGE, FRANK, Atlanta
 CANTOR, I. B., Atlanta
 Bleeding from the Appendiceal Artery—Report of
 Case, June 1940..... 325
 ESTES, MISS HELEN, Gainesville
 A Layman Looks at the Family Doctor, Nov. 1940 540

F

- FARLEY, HON. JAMES A., Washington, D. C.
 Crawford Williamson Long, Aug. 1940..... 386
 FOWLER, C. DIXON, Atlanta
 Infantile Diarrhea, Sept. 1940..... 442

G

- GREENBLATT, ROBERT B., Augusta
 The Therapy of Menometrorrhagia: 1. The Study
 of the Mechanism of Uterine Bleeding. 2. The
 Study of the Postpartum Period, Oct. 1940..... 481
 GREENBLATT, ROBERT B., Augusta
 TROPIN, RICHARD, Augusta
 Some Common Endocrine Disorders in the Fe-
 male—Special Reference to Treatment with
 Male Sex Hormone, Feb. 1940..... 63
 GROOVER, M. E., JR., Quitman
 The Problems of Medical Care as Seen by a
 County Health Officer, Apr. 1940..... 216

H

- HAILEY, HOWARD, Atlanta
 HAILEY, HUGH, Atlanta
 Treatment of Skin Cancer in Ambulatory Pati-
 ents—Report and Review, Feb. 1940..... 50
 HAILEY, HUGH, Atlanta
 HAILEY, HOWARD, Atlanta
 Treatment of Skin Cancer in Ambulatory Pati-
 ents—Report and Review, Feb. 1940..... 50
 HALL, C. E., JR., Atlanta
 Simple Proctologic Procedures, Apr. 1940..... 205
 HANSON, J. FLETCHER, Macon
 Treatment of Pneumonia in Adults with Sulfapyri-
 dine, Dec. 1940..... 561
 HARROLD, CHAS. C., Macon
 State-Aid in Cancer Control in Georgia, Feb. 1940 48
 Dr. Crawford W. Long, Jan. 1940..... 23
 HART, DERYL, Durham, N. C.
 JONES, RANDOLPH, JR., Durham, N. C.
 The Prevention of Infection by Air-Borne Bac-
 teria of Operative Wounds, Aug. 1940..... 401
 HENRY, J. A., Atlanta
 BENSON, MARION T., JR., Atlanta
 Therapy of the Third, Fourth and Fifth Venereal
 Diseases, Oct. 1940..... 489
 HERMAN, EMERY C., LaGrange
 Pneumococcic Meningitis Treated with Sulfapyri-
 dine and Antipneumococcic Type 1 Antiserum—
 Report of Case, Feb. 1940..... 72
 HODGES, FRED B., Atlanta
 BROWN, STEPHEN T., Atlanta
 BROWN, S. ROSS, Atlanta
 Tuberculosis of the Bladder, Aug. 1940..... 405
 HOLLOWAY, GEO. A., Atlanta
 Imperforate Hymen with Hematocolpos—Report
 of Case, Nov. 1940..... 535

HOWKINS, JOHN S., Savannah

- Intensive Fractional Treatment of Early Syphilis—
 A Preliminary Report, Sept. 1940..... 452

J

- JERNIGAN, H. W., Atlanta
 Tuberculosis of the Bone, Nov. 1940..... 537
 JONES, RANDOLPH, JR., Durham, N. C.
 HART, DERYL, Durham, N. C.
 The Prevention of Infection by Air-Borne Bacteria
 of Operative Wounds, Aug. 1940..... 401

K

- KELLY, C. LOMBARD, Augusta
 WHITNEY, LEON F., D. V. M., Orange, Conn.
 Prevention of Conception in Bitches by Injection
 of Estrone, July 1940..... 368
 KEMP, PAUL S., Macon
 Diagnoses of Interest—Report of Two Cases,
 June 1940..... 321
 KITE, J. H., Atlanta
 Some Comments of the Treatment of Congenital
 Clubfeet, Apr. 1940..... 212
 KRAFKA, JOSEPH, JR., Augusta
 Augusta—From Trading Post to Medical Center,
 Apr. 1940..... 232

L

- LEADINGHAM, R. S., Atlanta
 The Good of Yesterday—Memorial Address, Sept.
 1940..... 455
 LITTLE, ARTHUR D., Thomasville
 COLLINS, J. J., Thomasville
 Cancer of the Cervix, Feb. 1940..... 57
 LOGUE, R. BRUCE, Atlanta
 CLAIBORNE, T. STERLING, Atlanta
 Use of Salyrgan-Theophylline Suppositories in
 Congestive Heart Failure, Aug. 1940..... 399
 LYNCH, KENNETH M., Charleston, S. C.
 Progress in Knowledge and Control of Cancer,
 Nov. 1940..... 521

M

- MARTIN, J. D., JR., Atlanta
 Congenital Preauricular Fistula, Aug. 1940..... 411
 MASSEE, JOSEPH C., Atlanta
 SCHNEIDER, J. F., Atlanta
 Patient Unsuccessfully Treated with Sulfanila-
 mide, May 1940..... 276
 McDANIEL, J. G., Atlanta
 Postoperative Care, May 1940..... 255
 MINCHEW, B. H., Waycross
 Ware County Hospital, July 1940..... 356
 MOONEY, A. J., Statesboro
 Bulloch County Hospital, July 1940..... 359
 MURPHY, MR. GREGORY, Atlanta
 Founding of the Southern Medical College—
 Events Preceding Its Organization, May 1940.... 273
 MYERS, WILLIAM H., Savannah
 Brill's Fever, Feb. 1940..... 79
 Crawford W. Long—A Stamp Issue Honoring a
 Physician, Apr. 1940..... 239
 Doctor Crawford W. Long—Pioneer in Medical
 Research, Aug. 1940..... 388

Medicine: Yesterday and Tomorrow. May 1940.....	251	SCHNEIDER, J. F., Atlanta	
President's Message. Jan. 1940.....	31	MASSEE, JOSEPH C., Atlanta	
N		Patient Unsuccessfully Treated with Sulfanilamide. May 1940.....	276
NOLAND, LLOYD, Fairfield, Ala.		SIEGEL, ALVIN E., Macon	
The Status and Function of the Industrial Physician. Nov. 1940.....	525	The Use of Nicotinic Acid in Pellagra and Other Conditions. Sept. 1940.....	447
NORRIS, JACK C., Atlanta		SINKOE, SAMUEL J., Atlanta	
Politics and the Physician. Aug. 1940.....	414	What Constitutes Adequate Treatment of Syphilis? Jan. 1940.....	28
NUCKOLLS, JOHN B., Atlanta		SLAUGHTER, R. F., Augusta	
BOYD, MONTAGUE L., Atlanta		The Hyperactive Carotid Sinus Reflex—Report of Case. Aug. 1940.....	408
Carcinoma of the Prostate. Oct. 1940.....	493	SMITH, LINTON, Atlanta	
P		Further Observation on the Antenatal Use of Quinine. Oct. 1940.....	502
PAULLIN, JAMES E., Atlanta		STRICKLER, C. W., Atlanta	
Suggestions for the Improvement of Medical Care in Georgia. July 1940.....	364	Georgia's Medical Problems of 1940. July 1940.....	341
PATTERSON, J. C., Cuthbert		T	
Acute Abdominal Disease. Oct. 1940.....	507	TEASLEY, HARRY T., Hartwell	
Christmas Spirit-World War-Committee Activities. Dec. 1940.....	573	Treatment of Summer Diarrhea in Infants. Aug. 1940.....	413
Appendicitis Mortality. July 1940.....	371	TEEM, MARTIN VAN BUREN, Marietta	
Christmas Spirit-World War-Committee Activities. Dec. 1940.....	573	Hypometabolism and Myxedema. Nov. 1940.....	528
The Woman's Auxiliary. June 1940.....	324	TORPIN, RICHARD, Augusta	
Postgraduate Study. Sept. 1940.....	457	GREENBLATT, ROBERT B., Augusta	
Preparedness. Aug. 1940.....	415	Some Common Endocrine Disorders in the Female—Special Reference to Treatment with Male Sex Hormone. Feb. 1940.....	68
The Ninety-First Annual Session. May 1940.....	278	U	
Thrombophlebitis. Nov. 1940.....	543	UPSHAW, C. B., Atlanta	
PHILLIPS, A. M., Macon		Treatment of Sterility. Jan. 1940.....	1
Anesthesia in Rectal Surgery. Apr. 1940.....	209	V	
PUND, EDGAR R., Augusta		VISANSKA, SAMUEL A., Atlanta	
CARDWELL, EDWARD S., JR., Augusta		Reminiscences of a Georgia Pediatrician. June 1940.....	295
Malignancies Related to Venereal Diseases—Development of Carcinoma Secondary to Venereal Lymphogranuloma and Granuloma, and Carcinoma. Feb. 1940.....	60	W	
Q		WALKER, EXUM, Atlanta	
QUATTLEBAUM, JULIAN K., Savannah		The Relief of Pain in Trigeminal Neuralgia. April 1940.....	222
Medical Horizons. Aug. 1940.....	390	WEAVER, J. CALVIN, Atlanta	
R		Early Medical History of Georgia—Georgia as a Colony. Mch. 1940.....	89
REDFEARN, J. A., Albany		WEINSTEIN, ALFRED A., Atlanta	
Functional Heart Disease. Oct. 1940.....	486	ROBERTS, C. W., Atlanta	
RIESER, CHAS., Atlanta		Factors Involved in the Distribution of Physicians with Special Reference to Distribution in Georgia. July 1940.....	346
Etiologic Factors of Sterility in the Male—Report of Case. May 1940.....	269	WHITNEY, LEON F., D. V. M., Orange, Conn.	
ROBERTS, C. W., Atlanta		KELLY, C. LOMBARD, Augusta	
Concerning Biliary Tract Disease—Special Reference to Acute Cholecystitis. Apr. 1940.....	225	Prevention of Conception in Bitches by Injection of Estrone. July 1940.....	368
Distribution of Hospitals. July 1940.....	354	WILSON, WILLIAM D., Savannah	
ROBERTS, C. W., Atlanta		Palliative Procedures for Inoperable Malignant Lesions of the Colon. Feb. 1940.....	77
WEINSTEIN, ALFRED A., Atlanta		Y	
Factors Involved in the Distribution of Physicians with Special Reference to Distribution in Georgia. July 1940.....	346	YAMPOLSKY, JOSEPH, Atlanta	
RUDDER, FRED F., Atlanta		The Use of Sulfanilamide and Sulfapyridine in Pediatric Practice. Jan. 1940.....	9
DAVISON, T. C., Atlanta			
The Use of Pentothal Sodium—Oxygen Anesthesia as a Total Anesthetic Agent in Major Surgical Procedures. Oct. 1940.....	475		
S			
SCARBOROUGH, J. ELLIOTT, Emory University			
The Methods and Value of Biopsies in Malignant Tumors. Feb. 1940.....	63		

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TREATMENT OF STERILITY†*

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Atlanta

The purpose of this presentation is to outline and emphasize the fundamental principles in the management of the problem of sterility. Sterility in its broadest sense implies a failure of reproduction in the married couple. In absolute sterility there exists one or more reasons in one or both partners for this inability. There is permanent impairment or deficiency which makes pregnancy impossible. In the female this may be due to a previous operation in which the organs necessary for conception and childbearing have been removed or to absence of vagina, atresia, etc. In the male, maldevelopment or cryptorchidism or orchitis or any condition whereby there is an aspermia may be given as examples. In relative sterility reproduction fails because of some corrective fault or deficiency. Couples in this classification are not refractory to treatment. It is with this group that the gynecologist is most interested. By primary sterility we designate those patients in whom pregnancy has never occurred. Secondary sterility applies to those who have previously conceived one or more times but for a time are unsuccessful in again becoming pregnant. No couple should be considered sterile before one, or preferably two years have passed without the use of contraceptives.

Sterility is a problem commonly met with. Meaker has estimated that at least 10 per cent of marriages in this country are sterile, a figure which would give us about 2 million barren couples. Conservatively,

then, he believes we are poorer by at least 6 or 7 million native-born children. Thus the problem is not alone personal to the families involved but is one of national economic and social import.

With the newer concepts of gynecology, particularly the endocrine aspects and with other advances made in urology and medicine, much impetus has been given to the study of the problem. Up to a few years ago medical students received very little practical instruction in this subject. Interns and residents had inadequate training and experience with this problem. This has been necessarily true because the best internships are in the larger charity hospitals and sterility is a condition not commonly complained of in the charity class of patients. At the present, however, it is encouraging to note the tremendous increase in interest and the amount of research in this field.

In a study of 60 private patients whose chief complaint was sterility, we have collected the following data: 16 became pregnant after routine examination tests and treatment. This is an incidence of 26.6 per cent.

The blood Wassermann or Kahn was negative in all patients. The average age in the group was 28.8 years. The average length of time married was 5.4 years. The average use of contraceptives where used was about 2 years. Forty-two women had never been pregnant. Eleven had had a child or an abortion or both, and 9 had had an abortion. Seven had evidence and history of previous infections and in 44, or 73 per cent, the cervix was classified as diseased as follows: Endocervicitis, hypertrophy, laceration, erosion nabothian follicle cysts or polypi. The cervix was cauterized in 34 patients and 7 of these became pregnant. One patient became pregnant immediately after the simple removal of a cervical polypus and cauterization of the base. There were 6 fibroids, mostly of the sub-serous type. Thirteen patients had a retroverted uterus, an incidence of 21.6 per cent. In only 3 patients was infestation of trichomonas found, but it is believed the incidence would have been higher had not some form of an anti-septic douche been taken before coming for examination.

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*Read before the Medical Association of Georgia, Atlanta, April 27, 1939.

In 17 (28.3 per cent) there was definite evidence of glandular disturbance. The usual symptoms of low basal rate, scant and irregular menses, overweight, irregular fat deposits, low blood pressure and complaints of fatigue were present. In others many of these symptoms were present though less marked and not mentioned as a chief complaint by patients. Thyroid gland deficiency was most frequently suspected, although ovarian and pituitary deficiencies were undoubtedly frequent. Hyperthyroidism was not suspected in any patient. In one patient with a five-year-old child an endometrial implant about the tube and ovaries was found at operation which was probably a factor in her secondary sterility. Another one with one child and subsequent abortion had an endometrial implant in the recto-vaginal septum as evidenced by a blue dome cyst of the vagina, became pregnant but aborted about the sixth week. Another patient with a child 12 years of age was successful in becoming pregnant and developed a pre-labor hypertension and toxemia and after delivering a normal child at term had several postpartum convulsions; however, she recovered.

Fifty-six patients had tubal patency tests. As many as 4 or 5 tests were made upon some. In 11 there was evidence of complete closure. All were retested before final classification. It is a well known point in technic that if the gas is forced too rapidly tubal spasm develops which gives a false impression. In 23 patients pressure of from 100 to 220 millimeters of mercury was required before the gas passed through. In this group it is believed that the tubes were opened by the gas. In 12 cases the gas passed through at pressure of between 70 and 100, which is about normal.

Huhner tests were made on 36 patients. Many of the males were examined by and treated by competent urologists. In 5 males, active spermatozoa were not found. These tests were repeated several times as a rule. In three other males there was a marked scarcity of spermatozoa and a high percentage of dead ones. The Huhner tests were supplemented with condom tests and repeated many times. Titus has warned that these males should not be classed as absolutely sterile from these findings alone. He considers faulty technic in examination of the specimen as often responsible. He regards many of these men as amenable to treatment by a competent urologist.

Abdominal surgery was done on only one patient and this was in one with endometrial implants. Undoubtedly there were others who would have benefited from corrective surgery. However, owing to the uncertainty of results and the low percentage of pregnancies developing after plastic operations upon the tubes, the average patient is unwilling to submit to operation. While it is but fair that this uncertainty should be fully explained to both husband and wife it is probable that the profession has taken an ultra-conservative attitude toward plastic surgery of the tubes in sterility.

In handling sterility cases it should be understood at the outset that full cooperation from both partners should be had; otherwise the results will be unsatisfactory

in many cases. Too often only the woman is considered in the study. She is subjected to rigid tests and treatments without a thought as to the condition of the male partner. This unwarranted assumption can hardly be condemned too strongly. Novak in a recent article stated: "The more cases of sterility I see the more I am impressed with frequency and importance of the male factor. Complete aspermia is not at all infrequent in men who otherwise seem quite normal and in whom there is no history of mumps or gonorrhea or other infections and in whom the genito-urinary specialist finds no evidence of infection of the prostate or seminal vesicles." A complete history and physical examination of both should be made. The examination of the male is preferably made by the urologist. He is better equipped and qualified. The gynecologist cannot possibly be prepared for detecting and evaluating the finer points in urology. Team work between the gynecologist and urologist will give better results. Titus has suggested that in addition to these the pathologist and radiologist should be added to cooperate in the study and treatment. It must be determined that the male is capable of delivering a sufficient number of active and morphologically normal spermatozoa to the cervix. The normal volume of the ejaculate is from 2 to 5 cc. The spermatic count should be from 100 million to 150 million per cubic centimeter. Not more than 25 to 30 per cent of these should be dead or abnormal forms. By the condom test we may determine these facts. However, this method is not a perfect one. In one of our patients repeated condom tests showed an abnormally high percentage of dead spermatozoa whereas by use of a wide-mouthed bottle in which to collect the specimen normal numbers of motile spermatozoa were found. The rubber as well as the powder on the condom seems to interfere with normal sperm activity. This has been noted by other observers. In making the Huhner test several slides should be made from aspiration of the cervical canal if adequate numbers are not readily found. Also the vaginal pool behind the cervix should be tested if none is found in the

cervix. These tests should be made as soon as possible after coitus, preferably within an hour or two, although I have found many motile spermatazoa in tests made as long as 6 and 8 hours afterward. It has been demonstrated that normal spermatozoa move about 2 cm. in 8 minutes. The male should be under suspicion though not condemned when there is marked decrease in the number or where 25 to 30 per cent are dead at repeated tests. Many of these men with low counts are believed to have thyroid deficiency. One of our patients under observation for two years without a pregnancy had many tests made including basal rate, endometrial biopsy, tubal inflation and lipiodol injection, all of which were normal. After administration of thyroid extract to her husband she became pregnant. Whether by coincidence or due to thyroid administration, of course, we cannot know.

The gynecologist must get a detailed history and do a thorough physical examination. Careful inquiry should be made into the patient's family and past histories. It is important to know of the fertility of sisters or brothers, also to find out if either of the partners has had a previous marriage, if pregnancies occurred and the character and outcome of same. The menstrual history is also important. In previous pregnancies the details of the delivery or abortion are of great importance, particularly if they were induced or operative and if characterized by febrile convalescence. A careful pelvic examination may reveal some one or more factors responsible. The hypoplastic organs together with the other physical findings and the history may indicate the glands are at fault. One must continually keep in mind the stigma indicating dysfunction of the thyroid, ovary and pituitary glands. Even if facilities are not always available for making the basal rate, the symptoms and signs are often obvious to the careful observer. Irregular and scant menses, with long periods of amenorrhea, indicate deficient ovarian function. These symptoms in the patient showing a hypoplastic uterus, low blood pressure, unusual hair distribution and fat deposits and low vitality, indicate almost surely she has low thyroid func-

tion, and probably back of this is low pituitary function.

Infection and its earmarks must be constantly kept in mind. Cervicitis and salpingitis are undoubtedly the most frequently found obstacles in preventing pregnancy in the female. In our series 44 women, or 73 per cent, had cervicitis, and 34, or 51 per cent, showed either complete or partial blockage of the tubes. In 13, or 21.3 per cent of these patients, retroversion of the uterus was found. However, in some instances there were adhesions and factors other than the retroversions present. In a control series of 60 patients examined some time in the first ten weeks of pregnancy 19, or 31 per cent, were found to have retroverted uteri. In view of this it is probable that simple retroversion of the uterus is not a major factor in prevention of conception.

There are certain practical aspects of sterility which should be mentioned in handling these cases. For instance, it was found in one couple upon inquiry that vaseline and other lubricants were always used at coitus. On account of the spermatic effect of these lubricants they were advised to discontinue their use and within a few weeks a pregnancy was reported. It is quite important to explain the time of ovulation and the most favorable time for conception. Too often this is omitted. Couples should be encouraged to have frequent intercourse from the 12th to 20th day after onset of menstruation. It is now generally believed that ovulation occurs in this interval and that conception is most likely at this time.

Tubal tests should never be made if there is any evidence of acute infection about the vagina or cervix. Obviously there is danger of carrying infection higher into the pelvis. Also, tubal tests should not be made after an atypical or abnormal menstruation because of the possibility of disturbing an early pregnancy. Before corrective pelvic surgery is done in the female lipiodol studies should be done to determine definite location of any lesions, and before any corrective surgery is done in either male or female a thorough and careful study of the other partner should be made in order that needless surgery be avoided.

We are continually reminded of an increasing importance and appreciation of the parts of the endocrines in studies of sterility. As well stated by Litzenberg, all functions of reproduction, ovulation spermatogenesis impregnation, implantation, placentation, labor, lactation and involution are dependent upon gland function. A failure of the glands will result in sterility. The one found to be most commonly at fault is the thyroid, according to Novak and many other observers. He advocates administration of thyroid extract to both male and female in sterility unless there are no obvious contraindications. We may diagnose ovarian dysfunction by biopsy of the endometrium taken a few days before onset of the menses. The presence or absence of the secretory phase of this endometrium may be determined by an experienced and competent observer. The failure of ovulation is most likely traceable to pituitary failure. Correction of these conditions, unfortunately, is not always so simple. Several investigators have reported excellent results by radiation of the pituitary and thyroid as well as the ovaries. Personally, we have not resorted to this form of therapy, believing that it has not yet been given sufficient trial for proper evaluation as a safe therapeutic agent. Also anterior-pituitary-like and other hormones have been administered with varying and indifferent results reported.

In reporting 26 per cent successful pregnancies in our series we find this percentage is about the same as the most observers, though considerably lower than that of Titus, who in a similar number of patients reported 52 per cent successful. I believe that one must be cautious in claiming too much for any form of therapy. It is quite probable that some of our patients as well as those of other observers would have become pregnant in the course of time even if there had been no treatment.

Summary

The treatment of sterility has become a problem of increasing importance because of new developments in all branches of medicine. The treatment requires a broad survey of many factors. The problem ex-

tends to and may involve almost every branch of medicine and surgery.

Data on 60 private patients follow:

1. Cervicitis is most commonly suspected barrier, occurring in 73 per cent.
2. Retroversion of the uterus was found in 21 per cent which is believed of little importance since in an equal number of early pregnancies retroversion was found in 31 per cent of cases.
3. In 28 per cent there was definite clinical evidence of glandular disturbance; thyroid deficiency is believed most common.
4. Pituitary and ovarian deficiency are also basic and quite common, and as yet satisfactory methods and agents of treatment have not been fully worked out, and the correction is not simple.
5. There was evidence of male deficiency in 8 cases, an incidence of 13 per cent. Thorough examination of the male partner and his full cooperation is necessary to the successful handling of sterility cases.
6. Tubal patency tests showed evidence of complete tubal occlusion in 11 patients, or 18 per cent. The tubes were apparently opened by gas pressure in 23 cases, an incidence of 38 per cent. No corrective surgery was done on the occluded tubes because of the indifferent results and low percentage of success to be expected.
7. In a series of 60 private patients 16, or 26 per cent, became pregnant.

BIBLIOGRAPHY

1. Kotz, J. and Parker, Elizabeth: Etiologic Factors in Sterility, A. J. of Obst. & Gyn. Vol. 37, p. 233-241. Feb. 1939.
2. Titus, Paul: Human Sterility, Southern Medical Journal, Vol. 30, p. 410.
3. Titus, Paul: Practical Aspects of Sterility Studies, Am. J. Surgery, Vol. 35, p. 345-351. Feb. 1937.
4. Moench, Gerald L.: The Technic of the Detailed Study of Seminal Cytology, A. J. Obst. & Gyn. Vol. 19, p. 530.
5. Meaker, Sydney R. & Davis: Gynecology & Obstetrics, W. F. Prior Co., Vol. 111, p. 1-33.
6. Novak, Emil: Clinical Syndromes Referable to Failure of Ovulation, A. J. of Obst. Vol. 37, p. 605, April, 1939.

DISCUSSION ON PAPER OF DR. C. B. UPSHAW

Dr. Edgar H. Greene (Atlanta): I have enjoyed Dr. Upshaw's paper very much. For the past 15 years I have been particularly interested in this subject and wish to commend Dr. Upshaw for reminding us of possible dangers in making the sterility test. I agree with the essayist and others who claim that the patency test is reliable. In many instances it will clear up the situation, but no tubal patency test should be made until a complete physical examination (including a basal metabolism estimation) of the woman has been made. Indeed, it would be wiser to withhold the test until

both husband and wife are examined and fertility of the husband is proved. Obviously it is unnecessary to perform tests for fallopian tube patency if it is proved definitely that the husband is sterile. Formerly, in cases of unfruitful couples almost invariably the woman was considered the barren party. However, in recent years this impression has been corrected. It is now a well known fact that the male partner is frequently sterile. There are many things to consider in regard to sterility. Dr. Upshaw has clearly demonstrated that if pathologic conditions exist in the pelvic organs they must be cleared before any attempt is made to carry out pregnancy tests. Additional investigation should be made of the endocrine system. It is believed that a fairly normal endocrine balance is a requisite for fertility. Seldom is a patient fertile who has excessive activity of the thyroid, as in exophthalmic goitre; conversely, those women with markedly low thyroid function, particularly the myxedematous type, usually are barren. A woman rarely becomes pregnant until there is a normal balance of all glands (sex and related) of internal secretion. Abnormal acidity or alkalinity of the vaginal secretions may be responsible for sterility. The physician should never overlook this condition when he is tabulating causes of sterility.

From my observations, over a period of years, I am of the opinion that abnormal stimulation of the thyroid with resultant deleterious effect on ovulation oftentimes is brought about by the injudicious use of gland products, drugs and/or chemicals. The absorption of nicotine and methane resulting from habitual inhalation of cigarette smoke has, I believe, definite pernicious action upon the female sex organs and also upon the function of the mammary glands. In many cigarette addicts, if pregnancy does occur, lactation is greatly impaired or ceases entirely.

The sterility test in women so far as fallopian tube patency is concerned has attracted considerable attention. The Rubin insufflation test that Dr. Upshaw mentioned, will distend the tube, and if patent, the gas will pass through; however, in my experience, the iodized oil test is more satisfactory.

Dr. Robert Pendergrass and I presented a paper illustrated by lantern slides before the 1927 meeting of the Association in Athens demonstrating the value of the iodized oil test as an aid in diagnosis. In this test a visual study of the operation is made from the x-ray film. A definite diagnosis of patency or occlusion can be made, and if the latter, surgery amenable to the condition may be determined. In conclusion, I would offer this suggestion: Never should definite action be taken until the iodized oil test is made and carefully studied.

Dr. Richard Torpin (Augusta). Dr. Upshaw has well discussed the subject of sterility, which is a much more serious problem in private practice than in charity patients. His results tally with other scientific studies. He has shown that it is one of our major national problems. Therefore, much time should be devoted to its consideration in teaching medical students. There is a pragmatic side to this inasmuch as young physicians have to build up a stable practice by first successfully

treating such baffling subjects as sterility, dysmenorrhea and the like.

The following is an outline of the therapy of sterility found valuable. After an adequate general examination of the woman; uterine retroversions corrected by pessary and cervical erosions cured by electric cauterization she is instructed to return at a time one hour or so after intercourse without douching. Secretions obtained from the cervical os and from the vaginal pool should contain myriads of motile sperms of normal appearance. If they are absent or dead it may mean merely that the vaginal secretions are too acid, a factor present in many cases and easily corrected by a soda douche one to three hours prior to intercourse. If following this procedure the sperms are still dead, a freshly collected specimen in a clean bottle should be studied. Dr. Upshaw has warned wisely against study of condom specimens. The couple is advised to concentrate intercourse midway between the menstrual periods. Administration of vitamin E may be of value.

If no pregnancy results in due time, further studies include patency test and suction curettage. The first shows whether the pathway for the ovum is open and the second if done near the onset of a menstrual period indicates whether ovulation occurs. Dr. Upshaw's studies and all recent studies agree as to the influence of the thyroid gland. It apparently controls the action of every cell in the body and has decided influence on ovarian function and possibly on the pituitary. I believe that the general practitioner may safely dispense with the basal metabolism test and cautiously administer thyroid extract to those patients, wife or husband or both, who show the thyroid deficiency stigma described by Dr. Upshaw. They may be instructed to discontinue if they show nervousness, heart palpitation, etc. Extremely underweight patients may possibly be cured of sterility by the use of insulin, by its action on fat storage and weight correction, thereby indirectly stabilizing glandular imbalances.

Until this time the use of other glandular substances has been problematic as Dr. Upshaw pointed out.

A urologist should be consulted by the male if these measures do not produce an adequate number of motile sperms.

In case of tubal obstruction in the female, operative correction of defects may be considered. So far they have not proved very successful.

Dr. George A. Williams (Atlanta). I have enjoyed Dr. Upshaw's paper. I wish to discuss very briefly the class of tubal occlusion which persists in spite of insufflation. Certainly surgery should not be recommended with any enthusiasm, and only if all other measures have failed. Patients should be made to understand that the number of pregnancies in large series of salpingostomies has been very small.

However, the fact that a tubal occlusion persists after insufflation does not mean that the case is hopeless or must be subjected to surgery. A certain number of these cases is due to spasm, and repetition of the insufflation with the patient under the influence of appropriate antispasmodics may prove useful. In another

group the tubal occlusion is due to hypoplasia and can be relieved by appropriate treatment combined with insufflation.

An even larger group of tubal occlusions is due to agglutination of the fimbriae from mild inflammation. Many of these can be overcome by a course of treatment with the Elliott method combined with repeated insufflations. I can quote no definite statistics, but to the best of my memory about 50 per cent of my cases have been relieved in this manner.

Dr. W. F. Shallenberger (Atlanta): This study of sterility is extremely interesting and fascinating and I have been doing considerable work along this line for a good many years. Dr. Upshaw, in his splendid presentation, has covered most of the phases of the study of sterility. The only part of the subject that I wish to discuss is the role of tubal insufflation in both examination for and treatment of sterility. The number of patients who have consulted me for sterility and on whom tubal tests have been done is 499 and the total number of tests done is 1,087. In 151 instances the tubes were found open at the first test. In 230 patients the tubes were found to be tight but opened up subsequently. In 80 patients the tubes appeared to be completely closed but opened later and in 60 patients the tubes were found to be apparently hopelessly closed.

Out of this number of patients there have been 143 full term pregnancies, 32 other patients had abortions and 4 more had ectopic pregnancies. A rough analysis of the various pregnancies shows that 45 pregnancies followed where the tubes were tight but opened, and 46 more where the tubes were found closed at first but subsequently opened. In 21 patients there were no periods following the tubal test, that is, conception occurred immediately following the tubal insufflation. Nineteen patients had one period, eleven had two periods and three others had three periods before conception took place. Rubin does not consider that one can give the tubal test full credit unless conception occurs very promptly after the test. In this series there is no doubt about the tubal test being definitely responsible for at least 21 of the pregnancies and undoubtedly responsible in many of the other pregnancies.

Of course due attention was given to other conditions such as misplacement of the uterus, endocrine imbalance, etc. I just wanted to give a brief resume of our experience with tubal insufflation as a part of the study and treatment of sterility. We use great care in the selection of patients for tubal insufflation and always pay strict attention to aseptic technic.

Dr. Chas. B. Upshaw (Atlanta). It must be emphasized that sterility is not a condition confined to one of the partners, but that it is a problem of both. We must approach this with the couple in mind rather than one individual. Too often undue stress is placed upon the condition of the fallopian tubes and inflation tests. This came about because pregnancy has often resulted from opening of occluded tubes. Undoubtedly the insufflation test has great therapeutic value. However, we must not lose sight of the fact that the condition of the tubes is only one phase of the problem.

RUPTURE OF THE SPLEEN†*

REPORT OF CASE

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Union Point

There are few problems propounded to the physician which tax his diagnostic ingenuity quite as much as the diagnosis of a ruptured spleen. There are, certainly, few other instances in which accurate, early diagnosis affects mortality figures any more than it does in these cases. If we are to reduce the mortality rate, then early diagnosis must be made. In reviewing the literature one is impressed by the near absence of cases of ruptured spleen due to football injuries. Only two other cases were found, and the case to be reported is one due to a football accident. One wonders why there are not more such accidents in this game.

Vanselow, in 1696, was the first to distinguish between traumatic and spontaneous rupture of the spleen. Tension of the capsule from hemorrhage of a ruptured spleen was first described by Collins in 1855. In the same year Schnell described the symptoms of spontaneous rupture of the spleen. Baudet, in 1907, described the interval between the injury and the massive rupture as the latent period.

The spleen is not a vital organ and life can go on without it being present. It is a blood-forming and a blood-destroying organ.

Ruptures of the spleen may be either subcutaneous or perforating. The classification used here is for the subcutaneous type. Splenic ruptures are classified by the author as follows:

- I. Rupture of the apparently normal spleen
 - A. Spontaneous rupture
 - B. Traumatic rupture
 1. Instantaneous hemorrhage
 2. Delayed hemorrhage
- II. Rupture of the abnormal spleen
 - A. Spontaneous rupture
 - B. Traumatic rupture
- III. Intracapsular hemorrhage

†From the Surgical Service of the Washington General Hospital, Washington, Ga.

*Read before the Tenth District Medical Society, Washington, August 12, 1939.

A. Absorptive

B. Cyst formation

Only the traumatic, subcutaneous rupture of the apparently normal spleen will be discussed, and when ruptured spleen is referred to, it is this type.

The causes of ruptured spleen are usually due to a fall, kick, blow or crushing injury over the splenic area. Automobile accidents account for a large number of cases. In McDougal's¹ review of 44 cases, he found that 21 were due to severe injury, 16 were due to moderate injury, and 7 were due to mild injury.

No age period is immune to rupture of the spleen, but most cases occur between the ages of 15 and 50. These are the ages of activity, when accidents are most likely to happen.

Both sexes are subject to ruptured spleen, but men are susceptible 5 to 1 more than women. This is due to man's more hazardous occupations.

The mortality rate has been reduced from 50 per cent in 1900 to 30 per cent in 1935. This is due to early diagnosis, transfusion and splenectomy. In 167 fatal cases collected by Berger² in 1928, 90 per cent were due to hemorrhage and 10 per cent due to infection.

The pathologic changes of ruptured spleen vary with the amount of trauma. There may be small hemorrhages within the capsule which absorb with few or no symptoms and usually no after effects. There may be larger hemorrhages with clot formation under the capsule and in healing give rise to a subcapsular cyst. Starr³ reports such a case. These may be a tear in the splenic pulp, and continued bleeding and tension on the capsule may continue until the capsule ruptures. This gives rise to severe shock and symptoms of internal hemorrhage. In these patients there is usually a portion about the tear where the capsule is stripped from the splenic tissue. In the most severe cases there is a very large rupture with immediate, massive hemorrhage and death ensues unless the bleeding is checked in a short time. Four factors which predispose to spleen injuries are: 1. Friability of the splenic pulp; 2. Vas-

cularity of the organ; 3. Brittle capsule; 4. Its fixed position.

Symptoms vary with the extent of trauma and the amount of hemorrhage. The mild cases present few or no symptoms, but there are some symptoms which are fairly common to the average case. Very soon after the injury there is pain in the upper left abdominal quadrant over the spleen. There may be pain on deep breathing. Most patients complain of pain in the left shoulder. This is probably a reflex pain which is referred through the phrenic nerve to the 3rd, 4th, and 5th cervical nerves. It is due to irritation of the blood under the diaphragm. There are usually nausea and vomiting. Most patients are unable to stand erect and lean forward, or to the left side. These symptoms may not be severe in the ordinary case, but they may persist from 3 to 5 days, at which time the patient may present signs of collapse. At this time, they present the usual signs of internal hemorrhage. The pain in the splenic region becomes very severe. This period of mild symptoms, which precedes the collapse is called the latent period. Most likely there has been some hemorrhage within the capsule all the while but when the capsule ruptures there are more severe and pronounced symptoms. The patient presents a clinical picture of shock.

Examination of the patient soon after the injury reveals tenderness and rigidity of the upper left rectus muscle. There is a little or no change in the pulse volume nor in its rate. There is no immediate change in the blood picture, but after a few hours there is an increase in the white blood cell and the red blood cell count, and the hemoglobin is decreased. When rupture of the capsule occurs there is an acutely ill patient with anxious expression, cold clammy skin, profuse perspiration, fast weak pulse, subnormal temperature, low blood pressure and severe pain. Dullness is increased over the spleen. Rigidity of the left rectus muscle increases. There is further increase in the white blood cells, usually to 20,000 and a further drop in the red blood cells depending upon the severity of the hemorrhage.

The diagnosis is made on the above symptoms and findings. Burke and Madigan⁴ report a case in which thorotrast was used to show a ruptured spleen, and they advise its use. Indeed they commend its use and give no contraindication in these cases. Coronary occlusion and ruptured ectopic pregnancy can be ruled out although each may cause confusion. Schlegel⁵ says that on opening the abdomen of a man look for a ruptured spleen if there is blood in the abdominal cavity, and in a woman look for ectopic pregnancy. Costal breathing may lead one to suspect pneumonia.

Rupture of the spleen is frequently complicated by fracture of the ribs on the left side. Cases are reported of injury to the kidney with injury to the spleen. Blalock⁶ reports a case of ruptured diaphragm diagnosed by x-ray and at the time of operation for repair of this, the spleen was found ruptured and above the diaphragm. It was removed by the transpleural route and the diaphragm repaired. There was a pleural effusion which was treated by aspiration. Armitage⁷ reports a case of traumatic rupture of the spleen involving the pedicle in which there was early massive hemorrhage.

The present treatment is splenectomy preceded by transfusion to combat the shock. An incision is made through the left rectus muscle and, if exposure is inadequate, it may be extended outward in the shape of a "T." Explore for other injuries. If adhesions are present under the diaphragm these should be separated. The spleen should be delivered into the wound. The pedicle is located and clamped. When the spleen is removed the pedicle is transfixed and ligated doubly. Kraft⁸ presents a case in which he citrated the free blood in the abdomen and gave it to his patient. He used 1600 cc. of blood for the autotransfusion. The wound is closed in layers and without drainage. In the cases in which it was necessary to remove the tail of the pancreas, no untoward effects were noted. There are several such cases in the literature. A transfusion should be given immediately after the operation. The red blood cell count should be checked periodically and, if necessary, a small transfusion

should be given until the red cell count is normal.

Case Report

W. C. was a robust boy of 17 and in good health until Nov. 15, 1937. While playing football he was tackled and a man's foot hit him in the upper abdomen on the left side. He was out of the game for a few minutes but soon resumed play. After a few plays he was seen to be feeling badly and was taken out of the game and sent home. He complained of pain on the left side under the ribs. This pain was not severe. He complained more of a pain in his left shoulder, this being so severe that his doctor thought of taking him to the hospital and having an x-ray picture made of it. There were no signs of shock. He was advised to stay in bed and remain there for observation. He slept fairly well during the night, but occasionally vomited and continued to complain of pain in the upper left abdominal quadrant. During the next day he remained the same, continuing to vomit, but retaining some of his food and fluids. Two days after the injury, about 3 a.m., he arose from the bed to get an emesis basin. While up, he fainted. He was put to bed and his doctor summoned. When he arrived he found the boy in a state of profound shock. His pulse was fast and thready. His skin was moist and cold. He was sent to the hospital and given an intravenous injection of saline and glucose. He continued to vomit and complained of more pain in his upper left abdomen. This area was beginning to show some rigidity. He was given a blood transfusion. When examined at 1 p.m. he was lying on the left side and was quiet, due to a hypodermic of morphine. There were no abnormal sounds in the chest. He had considerable dullness in the most dependent part of his abdomen, which shifted as he turned over on his back. The dullness shifted downward. No mass could be made out in the upper left quadrant due to the tenderness and rigidity of the muscles. His pulse, at this time, was fast but fair volume. He had an anxious expression on his face. He had had a normal bowel movement since the accident and had had no blood in the urine, which he had passed several times since his injury. A diagnosis of ruptured spleen was made and the patient was prepared for immediate operation.

Under ether anesthesia the abdomen was opened through a left rectus incision with an extension outward from the middle of the incision. This extension was carried through all the layers except the muscle which was retracted outward. Before the peritoneum was opened it was noted that there was dark material underneath. This proved to be blood, some bright red and some very large dark, black clots. On exploration the spleen was found to be enlarged and a laceration could be felt about the mid-portion of the organ. The upper part of the spleen seemed to be plastered to the peritoneal surface of the abdomen just underneath the diaphragm. These adhesions were separated and the spleen delivered into the wound. The pedicle was clamped with two forceps and then cut. The pedicle was ligated doubly with a transfixion suture of chromic catgut, and a free tie was placed over this suture. All of the dark clots that

could be seen were removed. The abdomen was closed in layers using No. 1 plain continuous catgut for the peritoneum, No. 1 interrupted chromic catgut for the fascia and silk and silkworm for the skin. No drainage was used.

The patient stood the operation well but was given another transfusion on account of the massive abdominal hemorrhage. He has been given 250 cc. of blood twice since the operation and has made an uneventful recovery.

Oct. 17—1937—Transfusion	500 cc.
Oct. 17— “ “	500 cc.
Oct. 20— “ “	250 cc.
Oct. 23— “ “	250 cc.
October 17, 1937	R.B.C. 3,520,000 W.B.C. 9,600
October 25, 1937	R.B.C. 4,500,000
	Hemoglobin 60%
December 7, 1937.....	R.B.C. 5,000,000 W.B.C. 6,200
	Hemoglobin 100%
July 22, 1938.....	R.B.C. 4,400,000 W.B.C. 4,750
	Hemoglobin 72%

Comment

The spleen was about twice the normal size and was greatly congested. There was a large laceration across the middle of the organ which extended almost to the pedicle; it was widely separated and showed evidence of active bleeding. The capsule was stripped away from the splenic pulp at this large laceration, showing that a subcapsular hemorrhage had formed which ruptured probably when the patient went into shock, which was about 40 hours after the initial injury. There were two small lacerations above the large one and one small one below. There was considerable fibrin over the three small lacerations which caused the spleen to be adherent to the under surface of the diaphragm. There seemed to be no bleeding from these small lacerations at the time of the operation.

SUMMARY

A case of ruptured spleen with recovery of the patient is presented.

The latent period presented an opportunity to study the case.

Early operation and transfusion are necessary to reduce the mortality rate.

Autotransfusion may be used when possible.

The spleen is not a vital organ and may be removed with no after effects.

After a few months' time the blood picture became normal.

BIBLIOGRAPHY

1. McIndoe—British Journal of Surgery, (Oct. 1932), 20-249.
2. Berger—Sajous Cyclopaedia Prac. Med., F. A. Davis Co., 1928, 8-303.
3. Starr—Annals of Surgery, (Nov. 1933).
4. Burke and Madigan—Radiology, (Dec. 1933).
5. Schelgel—Beitr. z. Klin. Chir., 1926, 138-163.
6. Blalock—Southern Surgeon, (Mar. 1934).
7. Armitage—British Journal of Surg., (Oct. 1929), 17-335-337.
8. Kraft—Cal. and Western Med., (June 1931).
9. Bonfield—Canadian Med. Assoc. Jour., (April 1935).
10. Gardiner—British Med. Jour., (Mar. 1935).
11. Bronaugh—West Va. Med. Jour., (Aug. 1935), 31 363-367.
12. Shelly—Annals of Surgery, (May 1931).
13. Dardinski—Med. Annals of the Dist. of Columbia, (Jan. 1933). Vol. 2, 1-4.
14. Bond—Lancet. Vol. 1, pp. 1207, 1896.
15. Pfeiffer and Smith—Annals of Surgery v. 80, pp. 562-568, (Oct. 1924).

THE USE OF SULFANILAMIDE AND SULFAPYRIDINE IN PEDIATRIC PRACTICE†*

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It is the purpose of this paper to discuss the use of sulfanilamide and its allied drugs in pediatric practice. The following have been used in the treatment of diseases in children:

Prontylin, p-aminobenzenesulfanomido.

Neo-Prontosil, disodium 4-sulfamido-phenyl-2-azo-7-acetyl-amino - 1 - hydroxy-naphthalene 3, 6-disulfonate.

Sulfanilamide, p-amino - benzene-sulfonamido.

Sulfapyridine, 2(para-aminobenzenesulfonamido)pyridine, "M and B 693," "dagenan."

It is presumed that all these products except dagenan finally act on the body by liberating sulfanilamide. The action of dagenan is due not only to the sulfanilamide radical, but also to the antipyretic effect of the pyridine. The mode of action of these drugs is still questioned by different observers.

Bliss and Long¹ stated that some observers have noted a definite bacteriostatic effect against beta-hemolytic streptococci and other micro-organisms, while others believe that this chemical has a definite bactericidal action.

The administration of sulfanilamide and its allied group is not without danger.

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Many patients are quite susceptible to the toxic effects of the drug, and the misuse of it, in conditions where evidence warrants its use as a therapeutic agent, should be condemned in no uncertain terms.

While I have had little evidence of its use among colored children, I should like to list in Chart 1, as described by Long and Bliss,¹ the following toxic manifestations:

Of special interest is a short paper published by McGinty et al⁴ showing how nicotinic acid brings relief of toxic symptoms occurring with the administration of sulfanilamide. Their reason for using this medication is based on the fact of finding a marked increase of the urinary secretion of porphyrin in patients taking sulfanilamide.

Spies, Bean and Stone⁵ found that in

CHART 1

TABLE 4—THE TOXIC MANIFESTATIONS OF SULFANILAMIDE NOTED IN THE TREATMENT OF 307 ADULT PATIENTS AND 101 CHILDREN (Long and Bliss)

Type of infections, adult group:		Type of infections, children:	
Streptococcic infections	107	Streptococcic infections	58
Other infections	200	Other infections	43
Toxic Manifestation	Frequency, Adults	Frequency, Children	Comment
Dizziness, Anorexia, Nausea, Vomiting	Anorexia common	Anorexia common	Rarely severe enough to warrant discontinuing use of sulfanilamide.
Cyanosis	90 to 100%	90 to 100%	Of little clinical importance.
Simple fever	9%	3%	Very important warning sign; always stop use of sulfanilamide.
Dermatitis	1.6%	3%	Best to stop use of sulfanilamide.
Acidosis	3.6%	2%	Can be prevented if sodium bicarbonate is given as routine.
Renal irritation	0%	0%	If renal function is low, sulfanilamide is not excreted well.
Jaundice (without anemia).....	0.6%	0%	Stop use of sulfanilamide.
Mild hemolytic anemia.....	Common	Common	Not dangerous; continue use of drug and observe patient carefully.
Acute hemolytic anemia.....	2.9%	8.9%	In general, stop use of sulfanilamide; drug may be given with multiple transfusions.
Agranulocytic angina	0.3%	0%	Stop use of sulfanilamide.

These patients were kept in bed and under close observation during the major portion of their treatment with sulfanilamide.

I would like to call your attention especially to a short description of the mechanism of cyanosis in the course of sulfanilamide therapy. Marshall et al² believe that the cyanosis is due to the formation of methemoglobin. Others believe that cyanosis is of little clinical importance and gave as their routine sodium bicarbonate to prevent acidosis. Methylene blue, in 1 grain capsules, was given by Hartmann³ and others by mouth or in the form of intravenous injection, and according to their reports cyanosis seems to have disappeared shortly.

pellagrins the amount of porphyrin in the urine returned to normal after the use of nicotinic acid.

McGinty⁴ stated that since the introduction of nicotinic acid in patients who have been given sulfanilamide most of the unpleasant symptoms and porphyrinuria have been decreased, and he advised giving nicotinic acid in the dose of 50 mg. three times a day when sulfanilamide is used.

Now as to the dosage of these different drugs, it has been my experience that when ¾ to 1 grain a day is given to my patients for each pound of body weight, I usually have sufficient amount of concentration in the blood to warrant a therapeutic effect. If vomiting does not occur, its oral use will probably show the same speed of absorp-

tion as the subcutaneous method. However, when the oral method is avoided, the medication can be prepared in a one per cent solution with normal saline.

Some writers think that the blood level of sulfanilamide should be run up to between 10 and 15 mg. per 100 cc. That is not always possible, nor is it necessary. A level of about 10 mg. or a little less is usually sufficient. It is best to begin with a larger dose and then cut down the amount, so as to follow up the normal level for some days after the patient has apparently recovered.

recovery from the acute toxemic phase was about the same in both instances. When serum therapy was used in conjunction with sulfanilamide, they believe the best results were obtained.

Hogarth⁷ concluded, after a study of the use of prontosil in scarlet fever, that this drug seems to have no significant effect on either the duration of the initial pyrexia, or the incidence of complications, except where antitoxin was administered in addition to the therapy.

Chapman,⁸ in a study of the treatment of bacteremia of postscarlatinal nephritis

CHART 2

TABLE 2—THE AMOUNTS OF SULFANILAMIDE NECESSARY TO ESTABLISH THERAPEUTICALLY EFFECTIVE BLOOD LEVELS (FROM 10 TO 15 MG. PER 100 CC.) QUICKLY IN PATIENTS ILL WITH SEVERE HEMOLYTIC STREPTOCOCCUS, MENINGOCOCCUS, GONOCOCCUS, PNEUMOCOCCUS OR BACILLUS WELCHII INFECTIONS

Weight of Patient	Initial Dose by Mouth	Maintenance Dose, by Mouth		Total Daily Dose Sodium Bicarbonate
		Every 4 Hours (Day and Night)	Total Dose First 24 Hours	
Lbs.	Grains	Grains	Grains per lb.	Grains
150	80	20	1.2	60
125	70	15	1.2	50
100	60	15	1.3	50
75	60	15	1.3	50
50	50	10	2.0	30
25	30	5	2.2	15

Long and Bliss¹ agreed that while saline cathartics are not indicated during this therapy, other drugs can be used freely, and that the best antidote for sulfanilamide is water, because the more water given, the quicker the drug is excreted in the urine.

While this drug has been used successfully in eradicating streptococcic throats, especially when the beta-hemolytic streptococcus is the agent, it is surprising how little effect it has in diseases apparently caused by other streptococci. I want to call your attention to the following diseases and the results from the use of sulfanilamide:

Scarlet Fever

Sako, Dwan and Platon,⁶ in a series of cases in which sulfanilamide was used and an equal number of controls which did not receive any drug, showed that the rate of

with prontosil and prontosil, stated that it may be wise to use these drugs in spite of possible further damage to the kidney. However, he agreed that more experience with this medication should be acquired before favorable opinion is agreed upon.

Hoyne and Bailey⁹ have made an interesting study on the treatment of streptococcic carriers in scarlet fever patients in order to demonstrate whether these patients could be released from the hospital with negative nose and throat cultures for hemolytic streptococci, and they concluded: "On the basis of the data presented that irrespective of any value prontosil may have in the treatment of acute streptococcic diseases, it is not effective in the eradication of hemolytic streptococci from the noses and throats of scarlet fever patients at the end of a four-week quarantine period."

In a series of patients treated by the author, consisting of 12 patients in whom prontylin was used, the temperature became normal in 4 to 5 days in mild cases, and in 10 days in severe cases. Only one patient developed otitis media, and severe anemia was seen in one patient. In 20 control patients, mild and moderately severe and treated symptomatically, the temperatures in all but one patient were normal in 7 days. There were no complications, and my conclusion is: that in mild infections, scarlet fever patients will get well regardless of treatment, while in severe cases antitoxin combined with sulfanilamide will probably reduce the number of complications and mortalities.

that mathenamine, mandelic acid, and beta-oxybutyric acid are the most useful urinary antiseptics in the treatment of subacute chronic infections. However, these drugs are not always applicable to the acute stage of pyelitis, to any infection in which the urinary alkalinity is maintained, or to any case in which reduced renal function makes a urinary acidity of pH 5.5 and a certain minimal concentration of the drugs impossible. Sulfanilamide, he thinks, fills in the above mentioned deficiencies. However, it must be remembered that this drug has very little action on the streptococcus faecalis.

In my experience in two cases of pyelitis, in one of which there was a pure staphylococcus aureus culture present, and in

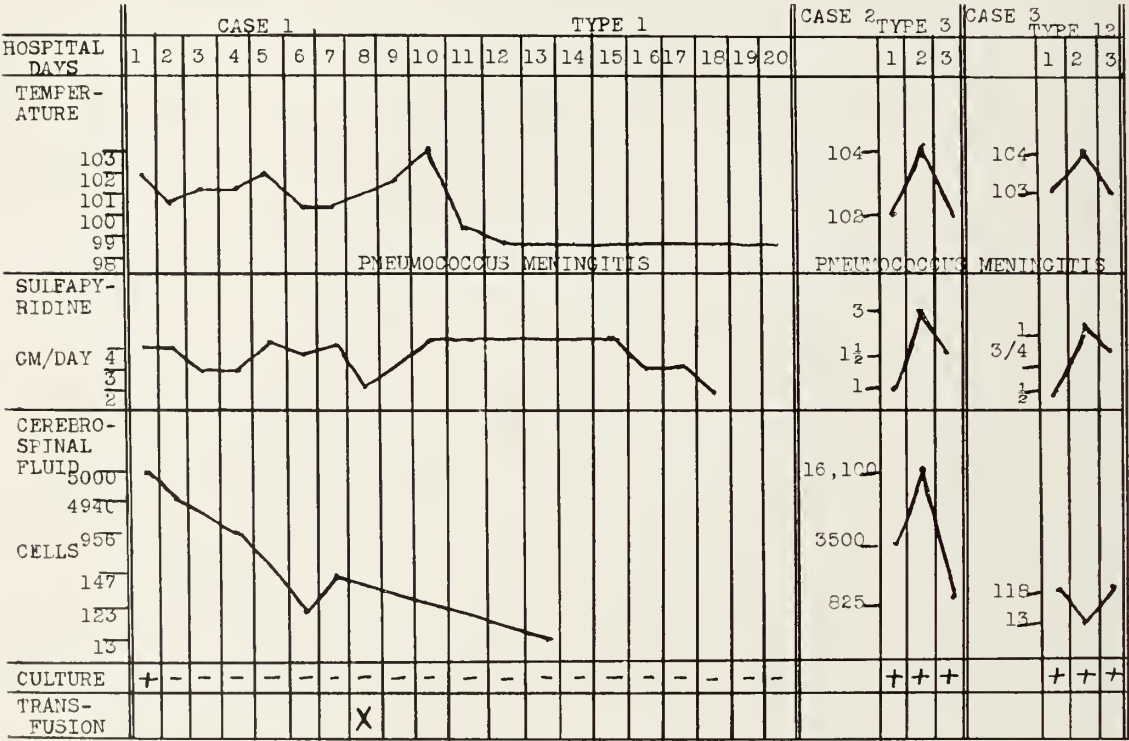


CHART 3

Pyelitis

While pyelitis is a self-limited disease, it appears that sulfanilamide may be of value in these patients only if the infection persists for a long time. Since the advent of mandelic acid, it has been possible to cure most of the patients with pyelitis through its use.

It may be interesting to review shortly Helmholtz's¹⁰ work on the use of sulfanilamide as a urinary antiseptic. He stated

another, proteus ammoniae, the cultures became sterile after 24 hours. We may therefore conclude that sulfanilamide is only one more drug to think about when a urinary antiseptic is necessary. We must, however, be on guard against the numerous toxic symptoms which may be a result of the administration of this drug.

Gonorrheal Infection in Children

The enthusiasm aroused by the use of sulfanilamide in gonorrheal infections in

children has prompted me to become interested in this subject because of the common occurrence of vulvovaginitis of specific character in young females. Very interesting reports of favorable nature appeared earlier in the literature on sulfanilamide.

Hoberg and Reck¹¹ treated several children who had gonorrhea. They believe that because of the ease of its administration, sulfanilamide may be the drug of choice. However, they reported many failures and believe that only 28 out of the 50 cases reported were benefited by its use. When no relief was obtained, they turned to estrogenic or antiseptic therapy. In some of the resistant cases they combined the sulfanilamide and estrogenic therapy.

Schneider and Blatt¹² divided the periods of treatment into 21 days. Their results revealed that two-thirds of their patients were apparently well after two courses of treatment but were greatly benefited by one or two extra courses. However, if not relieved after two standard courses of treatment, these patients were, in their opinion, resistant to the therapy of sulfanilamide.

Te Linde¹³ has treated several patients having gonorrheal vaginitis with the estrogenic hormone. He believes that the use of the hormone is simple and the results excellent and he prefers this treatment to any other drug.

Holmes¹⁴ treated 42 patients with vulvovaginitis with sulfanilamide. Of these, he reported 16 temporarily relieved, and of these 8 had recurrences.

In my series of many cases of vulvovaginitis in colored female children where a control was used, the estrogenic therapy was so much superior to the use of sulfanilamide that I believe it is the method of choice.

It might be of interest to report a case of gonorrheal vaginitis in my practice in a girl 8 years of age with gonorrheal arthritis of the elbow. When put on routine prontylin treatment, after 24 hours there was marked improvement in the arthritis and 5 days later the arthritis was apparently well, but there was no change in the gonococcic smear from the vagina. Amniotin was given and the patient was dismissed well 13 days after admission.

Gonococcal Ophthalmia

Michels¹⁵ has treated many patients with gonococcal ophthalmia with sulfanilamide. He incorporated the drug in Karo water feedings for smaller infants, and he reported that the most important beneficial effect was a decrease in the swelling and discharge.

Michie and Webster¹⁶ reported a study of 2 recent patients with gonococcal ophthalmia treated with sulfapyridine. They think that a duration of the acute phase can be brought down to a few days and for that reason the risk of permanent corneal destruction will naturally be greatly reduced.

Newman¹⁷ reported 8 patients in whom local treatment was of no avail. Six days after the institution of sulfanilamide treatment, smears from all the eyes were negative.

Willis¹⁸ reported 5 patients in whom the administration of sulfanilamide showed marked results in the disappearance of the gonorrheal infection of the eyes.

We may therefore conclude from these studies that sulfanilamide is a drug of great value in reducing blindness and injury to the cornea in ophthalmia neonatorum.

Sulfanilamide Therapy in Otolaryngology

Hickey¹⁹ reported numerous cases of pharyngitis, tonsillitis, cervical adenitis, otitis media, mastoiditis, otitic sepsis, streptococcal meningitis, ethmoiditis, and erysipelas, in which sulfanilamide therapy was used extensively. He thinks that this drug has been superior to any other medication in the treatment of the diseases described.

Flake and Carey²⁰ reported several cases of middle ear conditions in mastoid infections caused by beta-hemolytic streptococci. This report includes 3 patients with meningitis, one patient with sterile meningitis, one with perisinus abscess and septicemia, and one patient with postscarlatinal mastoiditis. They reported favorable results in these cases.

Kopetzky²¹ described the treatment of otogenic meningitis with sulfanilamide. He believes that sulfanilamide therapy and transfusions make an ideal therapeutic

combination in the treatment of these diseases.

In my hospital experiences there seem to be a great number of middle ear infections that are followed by mastoiditis, although the drum is incised early in the disease. If better results can be obtained and mastoiditis prevented, it would be advisable to use sulfanilamide in upper respiratory infections.

meningitis. He, as well as Neal and Appelbaum,²³ reported excellent results with the oral administration of this drug. Neal and Applebaum,²³ especially, insisted that specific serum such as antimeningococcal or antiinfluenzal serum should be used until the efficacy of sulfanilamide alone has been established. They recommended the use of specific convalescent serum in streptococcal meningitis following scarlet fever.

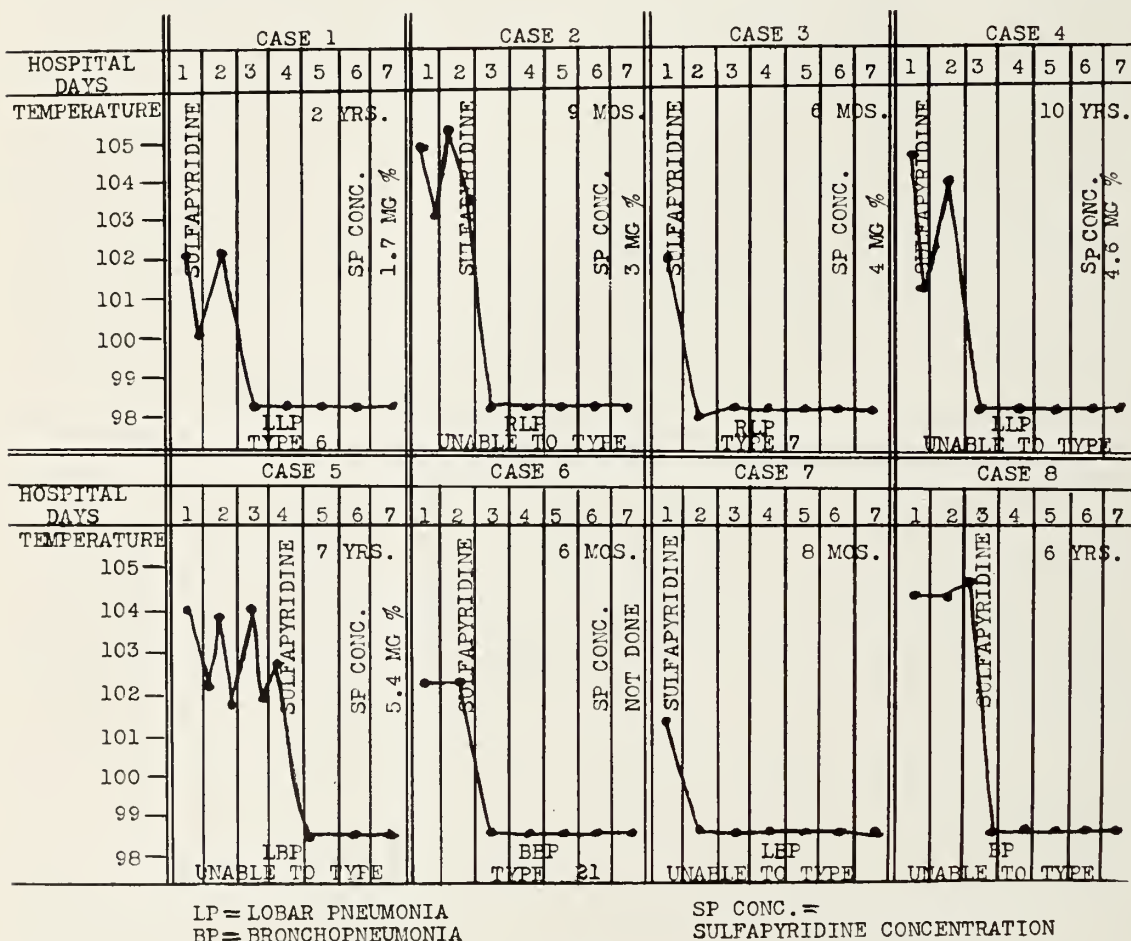


CHART 4

Meningitis

Sulfanilamide and its many allied drugs, especially sulfapyridine, have been tried extensively in the treatment of meningitis. Knowing as we do from past experiences that streptococcal, influen- zal, and pneumococcal meningitis are usually fatal, it may be illuminating to see some results that have been accomplished of late in the treatment of inflammation of the meninges.

Willien²² described the use of sulfanilamide in several cases of meningococcal

Martin and Ellenberg²⁴ reported 2 patients who had hemolytic streptococcal meningitis with complete recovery. They used prontosil intramuscularly and sulfanilamide by mouth.

Schwentker²⁵ used sulfanilamide intraspinously and subcutaneously, and to some patients he gave the drug by mouth. All these cases were meningococcal meningitis. He injected a 1 per cent solution of sulfanilamide in doses from 10 to 30 cc. intraspinously and from 100 to 500 cc. sub-

cutaneously. Of the 52 patients treated, only 8 died, and he concluded that this therapy is probably as effective as specific serum therapy.

Hoynes and Levy²⁶ have used only the meningococcus antitoxin intravenously. Their mortality seems to be about the same as Schwentker's. Certainly in infections such as meningococcal meningitis, where a specific serum or antitoxin may be used, it would be advisable to use the combined therapy of the antitoxin and sulfanilamide in order to get the best results.

Since the advent of sulfapyridine, I have been especially interested in the use of sulfanilamide and sulfapyridine in the treatment of pneumococcal meningitis.

Reid²⁷ was one of the first workers to report a case of pneumococcal meningitis treated with sulfapyridine. He was encouraged in using this medication because he felt that usually this group had a mortality which was a little short of 100 per cent, and since serum therapy was not very encouraging, he decided to put this patient on sulfapyridine. In one month's time this patient completely recovered, although the type of pneumococcus was not determined.

Hewell and Mitchell²⁸ stated that in the 10 years preceding 1937, they had the opportunity of studying 23 cases of pneumococcal meningitis with a mortality of 100 per cent. Since the use of sulfanilamide three of the patients have recovered out of six treated. In a summary of the patients recovering from pneumococcal meningitis in their series, they stated that only one showed pneumococci in the blood culture, and they concluded that this indicates that even with the use of sulfanilamide, a blood stream infection is a factor in mortality, and for that reason, with such infection, they advised that larger doses of the drug be used.

Hamilton's²⁹ experience has been limited to meningococcal meningitis. Twenty patients were treated with sulfanilamide alone, and 22 others were treated with this drug plus one or more methods. The group that was treated with sulfanilamide alone showed a mortality of 10 per cent, which

is much lower than any other method or combination of methods.

I have lately had the experience of treating three patients who had pneumococcal meningitis, (Types I, III and XII respectively) with sulfapyridine.

Report of Cases

Case 1. Colored boy, aged 10 years, was admitted to the hospital Feb. 26, 1939, with complaints of headache and pain in the right ear for past 4 days. His mother said that he had had fever; no convulsions or chills. She noticed that he had held his neck in a stiff manner for 2 or 3 days and complained of a cold and vomited 2 or 3 times. Physical examination disclosed: temperature 102° F., pulse 84, blood pressure 130/90, neck rigid, Kernig positive. Spinal fluid: under pressure, cells 5,000, all polys; type I pneumococci; globulin positive. On the same day sulfapyridine was given, $\frac{3}{4}$ grain for each pound of body weight.

Three days later the spinal fluid was still cloudy, cell count 956, 93 polys; 7 lymphs. At that time roentgenographic examination of the mastoid was made which revealed a loss of density in the left side with no evidence of disease. The blood sulfapyridine varied from 5.4 mg. per cent to 1.6 mg. per cent. Cisternal tap: 40 cc. of slightly cloudy fluid withdrawn under 500 millimeters pressure.

Sixteen days later signs of meningeal irritation lessened and sulfapyridine was omitted. Spinal fluid negative. Patient apparently well.

Case 2 Colored boy, 9 years of age, admitted to hospital Feb. 12, 1939. Five days before he had complained of earache on left side and had immediate purulent discharge from ear. The day before admittance he complained of headache and pain in neck. Had slight fever, no chills, no convulsions, no gastro-intestinal upset, and was never delirious. Physical examination revealed: patient acutely ill and had marked opisthotonos; temperature 103° F., pulse 96, respiration 22, blood pressure 130/90; had purulent discharge from ear; Kernig strongly positive; spinal fluid under marked pressure, cell count 3,500, 98 polys, 2 lymphs. Culture showed type III pneumococci. On admission was given 80,000 units of antipneumococcus serum and sulfapyridine treatments were started; dosage $\frac{3}{4}$ grain for each pound of body weight per day.

Patient's condition continued to be poor. He was given antipneumococcus serum again but grew steadily worse and died on the third day. Final impression: pneumococcus meningitis, otitis media.

Case 3. A little girl three months of age was admitted to the hospital Mar. 9, 1939. Patient had had cold for the past 2 weeks with convulsions the night before admittance to the hospital. Physical examination: temperature 103° F., pulse 130, respiration 40. She was in a somewhat comatose condition, with head drawn to right and lower extremities flexed. The fontanelle was bulging. Had a profuse purulent discharge from the nose; neck was very stiff; had a positive Brudzinski, Babinski, and Kernig. Spinal fluid revealed: cell count

118, 98 polys, 2 lymphs, and type XII pneumococcus. Patient was put on sulfapyridine, $\frac{3}{4}$ grain for each pound of body weight per day, and the spinal fluid continued to be cloudy and the cells increased in number. The next day, in doing a spinal tap, there was a questionable block and the fluid had a ground glass appearance.

The following day there seemed to be no block but the condition became more critical. The patient had generalized clonic convulsions, became worse, and died 2 days after admittance. Final impression: pneumococcus meningitis, type XII.

The results in these cases show a mortality of 66.66 per cent. The patients dying, however, lived only from 48 to 72 hours in the hospital. The first patient's blood culture was constantly negative. In the second, the blood culture was negative, and there was no report on the culture in the third case. It might be advisable, however, to use along with the sulfapyridine therapy at least one or two doses of specific antitoxins or sera in the different infections of the meninges.

In general we may conclude that we have some additional therapeutic methods in the use of sulfanilamide and sulfapyridine therapy in meningitis, and that the fatality of patients that were hopeless before, now may be expected to be reversed more often than before the advent of this therapeutic agent.

Pneumonia—Bronchopneumonia

(a) With the use of sulfanilamide.

For some time previous to the reported experiences of the use of sulfapyridine, I had the opportunity of treating many patients suffering from lobar pneumonia and bronchopneumonia with prontosil. The types of pneumonia treated were I, VII, XIV and XIX. There were 60 cases of lobar pneumonia. Sixteen of these patients were treated with prontosil, resulting in only one death. In a series of 44 patients not treated with prontosil, 6 deaths occurred. Thirty-six patients with bronchopneumonia were treated. Nine patients were treated with prontosil, with one death occurring, and in 27 control patients, there were 10 fatalities. In the 16 patients with lobar pneumonia treated with prontosil, one developed otitis media while under treatment and one developed empyema. In the bronchopneumonias treated with prontosil,

tylin, one patient developed toxic myocarditis and congestive heart failure with resultant death.

Thus, it may be seen that there has been very little advantage in the use of sulfanilamide in infections of the lungs in young children. We know, however, that no matter what remedy is used, one fact must be considered and that is: pneumonias in children are apt to get well without any treatment at all, and we must therefore evaluate the results of a drug used in a very critical manner.

(b) With the use of sulfapyridine.

Barnett, Hartmann and Perley³ had the opportunity of studying several patients with pneumonia treated with sulfapyridine. They reported spectacular results in pneumonia infections, especially the dramatic fall of the temperature a few hours after the administration of the drug. The most common toxic symptoms encountered were nausea, vomiting, and slight mental confusion. Some of these patients, however, seemed to remain toxic even after the temperature had fallen. The cyanosis was controlled by methylene blue.

Flippin, Lockwood, Pepper and Schwartz³⁰ reported a study of 100 patients treated with sulfapyridine, with 4 deaths. Three deaths occurred in pneumonia type III, and one in type IV. The toxic reactions were also limited to gastric irritability.

Evans and Gaisford³¹ reported a study of 200 cases of lobar pneumonia. The effect on the temperature was the most dramatic experience in their report. Their mortality was greatly reduced and the complications were not many in number. There were only 2 deaths. They seemed to have no trouble in getting the babies to take the tablets and they conclude: "The ease of administration and the abolition of the necessity for any injections make the drug particularly adaptable to the requirements of the pediatrician."

I wish to report 7 cases of lobar pneumonia, 5 of which were not typed, the other 2 were types VI and VII, and 6 cases of bronchopneumonia, treated with sulfapyridine given in the dosage of $\frac{3}{4}$ to 1 grain for every pound of body weight every day.

Methylene blue was given to all patients, 1 grain every 4 hours for the relief of cyanosis.

Report of Cases

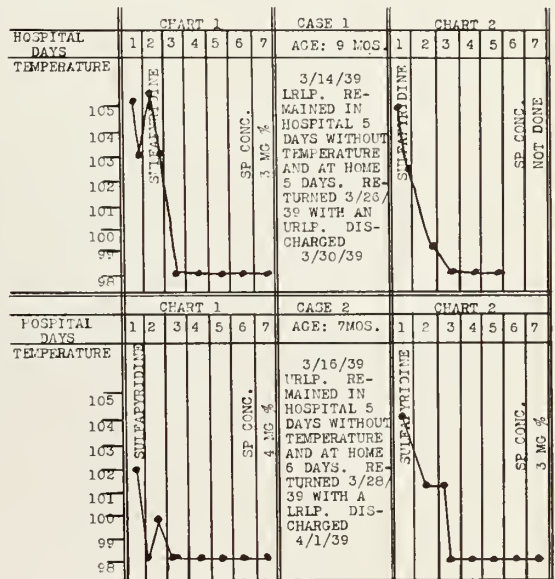
Case 1. Patient 6 years old admitted to the hospital on Mar. 6, 1939, with bronchopneumonia and hemorrhagic nephritis. Sick for two weeks. Blood culture negative. Given sulfapyridine on third hospital day. Temperature dropped from 104° F. to normal in 12 hours and remained normal. Discharged 4 days later.

Case 2. Patient 4 years of age admitted to hospital on Mar. 22, 1939, with complaint of fever, cough and pain in left chest. Began one week before with cold, running nose, coughing spells, high fever. Fever continued with chills, vomited food with coughing, and for 4 days complained of pain in left chest at anterior axillary line when coughing. No expectoration or hemoptysis. Physical examination revealed purulent mucoid discharge from nose, hypertrophic congested tonsils, and harshness of inspiration over bronchial tree anterior and posterior. No dullness or rales. Roentgenographic examination showed bilateral hilar consolidation indicating a bronchial pneumonia. Laboratory test showed sulfapyridine concentration from 2.2 mg. per cent to 4.5 mg. per cent, and 1.7 mg. per cent in the blood. Course: on admission ran a septic temperature for 48 hours, then put on routine dose of sulfapyridine and temperature gradually fell to normal in 40 hours, and remained normal. On March 29 the chest was clear and resonant, temperature normal, and condition good. After the sulfapyridine was begun the toxic symptoms disappeared.

Case 3. Patient 7 years of age. Onset of illness with severe chill on Mar. 15, 1939, followed by high fever, cough and pain in left lower chest. Physical examination at that time showed diminished breath sounds over left base, and roentgenographic examination was negative. On March 20 roentgenographic examination indicated bronchopneumonia, left base. Physical findings were those of lobar pneumonia. Sulfapyridine started. Patient acutely ill. In 24 hours the temperature had dropped to normal and patient was having no toxic symptoms. Physical findings were still present on March 23, but patient afebrile and bronchopneumonia resolving. The sulfapyridine blood concentration after 24 hours was 5.4 mg. per cent. Unable to type sputum.

Case 4. Patient 6 months old admitted to hospital Mar. 17, 1939. Began three days before to complain of cough and fever. Physical examination on admission revealed harsh breath sounds throughout lung. Breath sounds slightly decreased on right base posteriorly. Many crepitant rales heard in both bases. Minor friction rub in posterior axillary line over right base. Slight dullness over lower left lobe posteriorly. Diagnosis: bilateral bronchopneumonia, confirmed by roentgenogram. Laboratory tests revealed type XXI pneumococcus. Blood sulfapyridine concentration unsatisfactory, blood clotted. Course: routine dose of sulfapyridine was given 24 hours after admission and temperature dropped to normal in 12 hours and remained normal. Patient made uneventful recovery.

Case 5. On Mar. 4, 1939, patient aged 3 months, began to cough and had high fever, was admitted to Pediatric Clinic where diagnosis of acute upper respiratory infection was made. Patient became acutely ill on night of March 9, with high fever and cough. Physical examination revealed impaired percussion in left upper lobe posteriorly. There were loud sonorous breath sounds throughout both lungs, no definite tubular breathing. Diagnosis of bronchopneumonia was made and confirmed by roentgenogram. Unable to type sputum, and blood concentration of sulfapyridine was not done. Course: put on sulfapyridine on admission and temperature dropped to 99° F. in 24 hours, and patient rapidly improved.



LP = LOBAR PNEUMONIA

SP CONC. = SULFAPYRIDINE CONCENTRATION

CHART 5

Case 6. Patient 2 years of age admitted to hospital on Mar. 30, 1939. Three days before, patient became acutely ill with high fever, cough, and pain in chest. Physical examination upon admission revealed rales scattered throughout both lungs, more marked in base, with areas of high pitched breath sounds and tubular breathing. Same impairment to percussion in both bases. Temperature 103° F., pulse 160, respiration 40. Roentgenographic examination showed bronchopneumonia. Course: given sulfapyridine routinely and temperature became normal in 12 hours. Sulfapyridine concentration in blood: 4.5 mg. per cent.

Case 7. Patient 2 years of age admitted to hospital on Mar. 27, 1939, complaining of pains in stomach. Physical examination revealed questionable dullness over right middle and lower lobes. Diminished breath sounds with occasional fine moist rales over same area. Roentgenogram confirmed diagnosis of upper right lobar pneumonia. Sulfapyridine concentration in blood 2.6 mg. per cent. Course: put on routine dose of sulfapyridine on admission. Temperature normal in 24 hours.

Case 8. Patient 3 years of age admitted to hospital on Mar. 19, 1939. The day before admission patient

had very high fever and vomited everything taken by mouth. Physical examination revealed enlarged, cryptic and infected tonsils. Lungs were clear on admission but on March 20, there were a few crepitant rales under left clavicle with suggestion of slight impaired resonance over left base posteriorly. Roentgenogram confirmed diagnosis of upper left lobar pneumonia. Blood sulfapyridine concentration ranged from 7.14, 5, and 2 mg. per cent. Course: diagnosis not made until one day after admission, put on sulfapyridine with rapid fall of temperature to normal.

Case 9. Patient 20 months of age admitted to hospital on Mar. 27, 1939, with high fever, cough and vomiting. Physical examination revealed enlarged infected tonsils and dullness to percussion over left base, tubular breath sounds, occasional moist rale. Roentgenographic examination revealed "mottled consolidation throughout both hilar regions, more marked on left. Findings consistent with a left lobar pneumonia." Course: placed on sulfapyridine on admission and temperature gradually reached normal in 36 hours with no toxic symptoms.

Case 10. Patient 10 years of age admitted to hospital on Mar. 8, 1939. Patient had cold and complained of cough, high fever and pain in left chest and headache. Physical examination revealed positive findings of lobar pneumonia in upper left lobe with rapid respiration. Roentgenogram confirmed diagnosis of upper left lobar pneumonia. Unable to type sputum, sulfapyridine blood concentration: 7.7, 2.5 and 2 mg. per cent. Blood culture negative. Temperature became normal in 24 hours, and there were not toxic symptoms from sulfapyridine present at any time.

Case 11. Patient 2 years of age admitted to hospital Mar. 13, 1939. One day prior to admission developed fever, severe cough. Physical examination showed dullness and numerous medium moist rales over left lower lobe. Diagnosis: left lower lobar pneumonia, confirmed by roentgenogram. Laboratory tests showed type VI pneumococcus and blood sulfapyridine 1.7 mg. per cent. Course: put on routine dose of sulfapyridine on admission. Temperature became normal in 48 hours, with abatement of pneumonic toxemia. No toxic signs from sulfapyridine.

Recurring Pneumonia

Case 1. Patient 9 months of age admitted to hospital on Mar. 14, 1939. Two days prior to admission patient had fever and vomited. Physical examination negative, until one day after admission, there was flatness and moderate amount of moist rales and suppressed breath sounds over lower right lobe. Diagnosis: lower right lobar pneumonia confirmed by roentgenogram. Unable to type sputum, blood sulfapyridine concentration 3 mg. per cent. When physical findings of pneumonia developed, patient was put on routine dose sulfapyridine and in 20 hours temperature had dropped from 105.4° F. to 98°. Patient remained well in hospital 5 days and at home 5 days. Returned to hospital March 26, 1939, with high fever, difficult respiration and cough. Physical examination revealed slight degree impaired resonance over posterior right base and posterior right

upper lobe. Many crepitant and moist rales over upper right lobe posteriorly; a few anteriorly. Occasional moist rale over lower right lobe posteriorly. Diminished breath sounds upper right lobe anteriorly. Diagnosis: upper right lobar pneumonia, confirmed by roentgenogram. Previous pneumonia was in lower right lobe. Put on routine dose of sulfapyridine on admission and temperature dropped to normal in 36 hours.

Case 2. Patient 6 months of age admitted to hospital Mar. 16, 1939. Patient had high fever and cough for 4 days prior to admission. Physical examination revealed dullness to percussion in right base anteriorly and low in axilla, slight diminished resonance over upper lobe anteriorly. Increased breath sounds over lower lobe anteriorly and in axillary line. Decrease in resonance over lower right lobe posteriorly. Breath sounds decreased moderately in this area. Fine crepitant and subcrepitant rales posteriorly right base and in axillary line. Roentgenogram confirmed diagnosis of upper right lobar pneumonia. Laboratory tests revealed type VII pneumococcus, and blood sulfapyridine concentration 4 mg. per cent. Course: put on routine dose of sulfapyridine on admission and temperature dropped to normal in 12 hours. Dismissed well on March 22, 1939. Returned to hospital on Mar. 28, 1939, and physical examination showed signs of right lower lobar pneumonia. Rales, tubular breathing, dullness, rapid pulse, temperature 104°, respiration 40, and diagnosis was made of lower right lobar pneumonia. Sulfapyridine concentration in blood was 3.1 and 2.9 mg. per cent. Put on routine sulfapyridine on admission and temperature fell to normal in 40 hours. Toxic symptoms of pneumonia subsided in 12 hours.

CHART 6
MEAN CONCENTRATION OF SULFAPYRIDINE
IN BLOOD

Case 1	1.7 mg.%
Case 2	3 mg.%
Case 3	4 mg.%
Case 4	4.6 mg.%
Case 5	5.4 mg.%
Case 6	2.8 mg.%
Case 7	2.6 mg.%
Case 8	4.71 mg.%
Case 9	3 mg.%

It will be seen from studying these cases that the temperature dropped in a period of 12 to 36 hours after the administration of sulfapyridine and only one patient appeared to be ill after the temperature dropped, although the physical signs remained for a few days. Two patients with lobar pneumonia remained well 5 days and returned with a new infection of pneumonia in a different lobe. I encountered very few toxic symptoms, the most common being gastric irritability. However, it is possible to use the sodium salt of sulfapyridine, a preparation which is much more soluble and which



RECURRING PNEUMONIA

G. M., 9 months of age. Lower right lobar pneumonia. Became well under sulfapyridine treatment, returned in a

few days with an upper right lobar pneumonia and again cured by the use of sulfapyridine.

may be administered in a 2 per cent solution by rectum. In this way elimination of nausea and vomiting may be achieved. Certainly the same caution should be used in giving sulfapyridine as must be employed with the use of sulfanilamide and its allied chemical preparations.

It may be noticed that the concentration of sulfapyridine in the blood is much lower than the sulfanilamide concentration, but we must agree with MacColl³² that the value of this drug whose use is accompanied by a lowering of the temperature is so constant that an antipyretic effect is suggested.

SUMMARY

We have now had the opportunity of studying the use of sulfanilamide, prontosil, neo-prontosil, and sulfapyridine. Apparently most of these drugs, especially sulfapyridine, finally act on the body by liberating sulfanilamide.

From my experience, it appears that the oral administration of these drugs will suffice in most of the conditions treated.

Little benefit has been seen in the treat-

ment of scarlet fever with the use of sulfanilamide alone.

In the treatment of streptococcic throats, otitis media, otitic sepsis, cervical adenitis, and erysipelas, the use of sulfanilamide has proved to be far superior to other medications.

Sulfanilamide has been of definite help in the treatment of pyelitis, and neo-prontosil and sulfanilamide have proved of great benefit in the treatment of many infections of the genito-urinary tract.

I have seen very little improvement in the treatment of vulvovaginitis with sulfanilamide, but gonococcal ophthalmia is amenable to sulfanilamide therapy.

Meningococcal meningitis has been treated extensively with sulfanilamide and I believe that early use of a serum or antitoxin, followed by the use of sulfanilamide, will bring the greatest results.

Pneumococcal meningitis, up to 1937, was almost 100 per cent fatal. Only 30 cases were reported previous to the use of sulfanilamide. Since the use of sulfanila-

mide and sulfapyridine, many authentic cases of this disease are reported as cured. In my patients type I meningitis responded rapidly with a fall in temperature in eleven days' time in a complete cure, and the other patients, types III and XII, were extremely ill and lived only three days.

In the treatment of pneumococcal pneumonia and bronchopneumonia, I have certainly found sulfapyridine to be of great aid. I have in this paper reported 13 consecutive cases of pneumonia and bronchopneumonia with 100 per cent cure. The temperature dropped in a remarkably short time after the administration of the daganan. In two of my patients pneumonia recurred a few days following the first cure and also improved as rapidly by the second administration of sulfapyridine.

CONCLUSION

Sulfanilamide and its allied drugs, including sulfapyridine, if used wisely, can be of life saving value in numerous diseases which did not in the past respond so quickly to other methods of therapy. It is important, however, that we know the toxic effects of these drugs and that the medicine is used cautiously and its use not abused.

Since it is many times difficult to type the pneumonias in children and on many occasions more than one type of organism is found in the same patient it seems to me that sulfapyridine should be a drug of choice in these cases. However, further study should be made in order not to lose the value of the serum treatment which has been of great therapeutic value in the treatment of pneumonias.

BIBLIOGRAPHY

- Long, P. H., and Bliss, E. A., *Journal of the A. M. A.*, Page 115, (January 14, 1939).
- Marshall, E. K., Jr., and Walzl, E. M., *Bulletin Johns Hopkins Hospital*, 61:140, (August 1937).
- Barnett, H. L., Hartmann, A. F., Perley, A. M., and Ruhoff, M. B., *Journal of A. M. A.*, Page 518, (February 11, 1939), Vol. 112, No. 6.
- McGinty, A. P., Lew's G. T., Holtzclaw, M. R., *Journal of the Medical Association of Georgia*, Vol. 27, Page 21-29, (January 1938).
- Spies, T. D., Bean, W. B., and Stone, R. E., *Journal of A. M. A.*, 110:622, 627, (February 26, 1938).
- Sako, W., Dwan, P. F., Piatou, E. S., *Journal A. M. A.*, 111:995, (September 10, 1938).
- Hogarth, J. C., *British Medical Journal*, 4014:1160, (Dec. 11, 1937).
- Chapman, A. W., *Archives of Pediatrics*, 55:560, (September 1938).
- Hoyne, A. L., and Bailey, J. H., *Archives of Pediatrics*, 54:731, December 1937).
- Helmholtz, H. F., *Journal of Pediatrics*, 11:243, (August 1937).
- Hoberg, J. E., Reck, L. E., *Ohio State Medical Journal*, 34:1249, (November 1938).

- Schneider, M., Hoffman, S. J., Blatt, M. L., and Herrold, R. D., *Journal of the A. M. A.*, 110:1541, (May 7, 1938).
- Te Linde, R. W., *Urologic and Cutaneous Review*, 42:817, (November 1938).
- Holmes, J. W., *Yearbook of Pediatrics*, 1938, Page 394.
- Michels, M. W., *Journal of Pediatrics*, 13:527, (October 1938).
- Michie, A. M., and Webster, M. H., *Lancet*, 235:373, (August 1938).
- Newman, H. W., *Yearbook of Pediatrics*, 1938, Page 510.
- Willis, T., *Yearbook of Pediatrics*, 1938, Page 509.
- Hickey, H. L., *Rocky Mountain Medical Journal*, 35:782, (October 1938).
- Flake, C. G., and Carey, B. W., *New England Journal of Medicine*, 217:1033, (December 23, 1937).
- Kopetzky, S. J., *American Journal of Surgery*, 42:131, (October 1938).
- Willien, L. J., *Yearbook of Pediatrics*, 1938, Page 174.
- Neal, J. B., and Applebaum, E., *Yearbook of Pediatrics*, 1938, Page 174.
- Martin, A. T., Ellenberg, S. L., *Archives of Pediatrics*, 55:428, (July 1938).
- Schwentker, F. F., *Journal of Pediatrics*, Vol. 11, No. 6, Page 874, (December 1937).
- Hoyne, A. L., Levy, G. H., *Journal of Pediatrics*, Vol. 11, No. 6, "Roundtable," (December 1937).
- Reid, G. C. K., and Dyke, S. C., *Lancet* 235:619, (September 10, 1938).
- Hewell, B. A., Mitchell, A. G., *Journal of A. M. A.*, Vol. 112, No. 11, Page 1033, (March 18, 1939).
- Hamilton, P. M., *Journal of Pediatrics*, "Roundtable," Vol. 13, No. 4, Page 605-617, (October 1938).
- Flippin, H. F., Lockwood, J. S., Pepper, D. S., and Schwartz, L., *Journal of A. M. A.*, Page 529, (February 11, 1939), Vol. 112, No. 6.
- Evans, G. M., Gaisford, W. F., *Lancet*, 235:14, (July 2, 1938).
- MacColl, W. A., *Journal of Pediatrics*, Vol. 14, No. 3, Page 277, (March 1939).

DISCUSSION ON PAPER OF DR. JOSEPH YAMPOLSKY

Dr. A. M. Johnson (Valdosta): The past two years have proved without doubt that we have in sulfanilamide and its compounds a most effective therapeutic agent. We must constantly bear in mind, however, that these drugs have their limitations. We will be unwise if we allow ourselves to prescribe these preparations with total confidence and entirely neglect therapeutic agents which have proved beneficial. There are types of streptococcal infections which are not amenable to chemotherapy, and there are pneumonias which will not respond to chemotherapy. The continued use of serum in these cases is indicated and such valuable additions should not be relegated to the therapeutic scrap heap.

It would not be amiss to reemphasize the fact that these drugs have at times a toxic effect on the host. These symptoms can at times assume alarming proportions. I refer in particular to the profound anemia which is occasionally seen.

Dr. Yampolsky's report of cases is somewhat optimistic in comparison to reports of some clinicians. In a large number of cases of pneumonia we will continue to see results from the use of sulfapyridine which are amazing. There are other cases which will not respond so readily to this compound.

We are not all so fortunate as to have unlimited laboratory facilities at our disposal as has Dr. Yampolsky for the detailed study of these cases. I would like, however, to present the clinical results on the use of sulfapyridine in six instances.

The first case a 19 months old baby with bronchial pneumonia, post influenzal. The child also had bilateral otitis media. It was treated for 36 hours and died.

The second also had bronchial pneumonia of post pertussis origin. Age 13 months. The child's temperature was normal in 24 hours. It also had otitis media. It made an uneventful recovery.

Third was lobar pneumonia. Age 3 years. Temperature in 12 hours was normal. Type I. It was the only pneumonia in the series we were able to type.

Fourth was lobar pneumonia. Temperature normal in 24 hours. O.M.P.A. Uneventful recovery.

The next child, five years old, had bilateral mastoiditis and otitis media. Temperature normal after 12 hours' treatment. Uneventful recovery.

Another case was meningococcic meningitis. Age four months. Received sulfapyridine for 48 hours. Temperature became normal and patient had an uneventful recovery. Hemoglobin dropped from 80% to 38% in 48 hours. Dosage 1 gr. per pound of body weight was given.

Toxic symptoms in five instances, one anemia and four nausea. In two cases we stopped the drug in 48 hours on account of nausea. In no instance did the temperature return.

It is believed by many that the use of sulfapyridine will greatly reduce the incidence of severe complications in pneumonia, particularly empyema. As one surgeon friend of mine expressed it, "Sulfapyridine is ruining my chest work."

The field of chemotherapy is yet in its infancy and the following year will probably see the development of an agent which has all the beneficial therapeutic properties of sulfanilamide or sulfapyridine with a minimum amount of their toxic symptoms.

Dr. R. C. McGahee (Augusta): During the past six months fourteen children suffering with lobar pneumonia in the University Hospital have been treated with sulfapyridine. Our results are in accord with those of Dr. Yampolsky's and with those reported in the literature.

A study of this small group of patients has been made to determine the effects of this drug on the duration of illness, the occurrence of complications and the toxic effect of the drug.

In the majority of patients there was apparently definite shortening of the period of illness. At times this was most striking. A drop in temperature with clinical improvement in some patients was noted within twenty-four hours. In others improvement was less marked and in still others there was doubt of any benefit. This was true of only a small minority.

No complications developed after the beginning of treatment; however, a few were present at the start. One of these was a pneumococcus septicemia which cleared rapidly.

Regarding toxic effects none was noted except occasional mild nausea which might have been ascribed to sulfapyridine. The white and red blood cell counts were observed with particular interest and no toxic effect noted. Nausea in this group was not a problem and it was not necessary in a single instance to discontinue the drug because of this symptom.

This experience has led those of us who followed this small group of patients to believe that sulfapyridine has a definite place in the treatment of pneumonia in children.

Dr. John A. Simpson (Athens): By way of discussing Dr. Yampolsky's paper, I thought it would be well to bring up three features of the use of sulfapyridine and sulfanilamide.

The first question Dr. Yampolsky mentions in starting his paper concerning the use of sodium bicarbonate and methylene blue. A little over a year ago one set of workers suggested the use of sodium bicarbonate to overcome what they thought was acidosis. About three months ago another set of workers found that methylene blue overcame cyanosis that followed the use of sulfanilamide or sulfapyridine. I would just like to ask Dr. Yampolsky which we shall use. If it is known at present which is best?

The next question refers to neo-prontosil, either solution or tablet. We are told in literature that neo-prontosil can be taken by handfuls and have no bad effects from it. I wonder if we can expect as good results from neo-prontosil as we do get from sulfanilamide?

No. Pt.	Age Yrs.	III before adm. days	Crisis after treat. days	Total amt. drug gm.	Drug given days	W.B.C. High and Low M.	R.B.C. High and Low mil.	Complications	Type Organism	Location Pneu.
1 W.H.	3	7	2	9	3	20-10	4.1-3.3	Wass. ††††		R.L.&U.
2 W.D.	2	2	½	3	4	39-13	3.8-	None	VI	L.L.L.
3 B.C.	3	2	½	6	2	29-24	5.3-4.9	None		R.L., R.&U.
4 B.B.	6	1	1¼	7.5	5	36-29	4.8-4.7	Tonsillitis		R.L.
5 A.S.	12	4.5	6	16.2	3	13- 9	4.1-3.7	Wass. ††††		R.L.
6 H.H.	7	2	1½	11.0	2	17-11		None	III	R.L.&M.
7 F.K.	7	5	1½	8.5	3.5	21-18	3.3-8.1	None	1	R.L.&U.
8 W.N.	8	4	2	6.5	2	39-15	4.6-4.5	Bacteremia	1	L.U.
9 N.S.	2	3.5	2	7.5	4	21-12	4.8-3.6	None	XIX	R.L., L.L.
10 L.C.	7	1.5	⅓	12	4	19-10	3.7-3.4	None		L.L.L.
11 A.B.	2.5	4	1	12	4	24-	3.8-	None	VI	Broncho
12 S.P.	1.5	4	1	4	1.5	24-12	3.0-	Otitis M.	1	L.L.L., R.V.
13 J.S.	6	3	3	7	4	26-26		None		L.L.L.
14 E.B.	8	2.5	1½	13	5	21-4.9	4.2	Vincent's	III	R.L.
Ave		3.3	1.7	9	3.5	26-15	4.1-4.0			

The third and last, I would like to inquire into the dosage Dr. Yampolsky advises in severe and in mild cases, due to the fact that there is so much argument, with some doctors agreeing that the result is better from a small amount of the drug and others requiring a large amount of the drug. I want to ask whether the dosage depends upon the severeness or mildness of the disease?

Dr. Jack Norris (Atlanta): Dr. Yampolsky has a very good paper and a very interesting paper. He did not invite me to discuss it but I told him I was coming over and discuss it anyway. I have to chuckle as I think back ten years ago when I heard first about the great discovery of mercurochrome. I heard Dr. Young make his famous report in which he presented this remarkable remedy for any and every disease. I was enthusiastic about it until I saw the many mistakes we made with it, and saw the wonders it would not perform. I am still skeptical about sulfapyridine and sulfanilamide. I don't believe it will do the things we think it will do. I do think that the drug is very helpful in cases of meningitis and gonorrhea and I think that sulfapyridine has a place in the treatment of certain pneumonias. I am also aware of the fact that cases of pneumonia treated by the old time remedies usually get well whether or not you give them more than aspirin. I do not believe that sulfapyridine will cure pneumococcal meningitis any better than serum therapy. As usual when a new remedy comes out it becomes a panacea for any and all infections. Possibly this is the one where we can throw up our hands and cry "Eureka." It may be the great thing of the age. However, I think I can best serve this audience by warning you in this direction: Sulpyridine will not cure cancer or rabies, and it is not helpful for syphilis!

Dr. G. H. Lang (Savannah): I apologize for coming before this audience twice in one day to discuss a paper but recently in a talk with one of our pediatricians in Savannah we were discussing sulfanilamide, and I had recently had a case in which it failed to effect a cure. I was rather surprised because the case was one of hemolytic streptococcus in otitis media and the patient developed mastoid infection and we operated and found hemolytic streptococcus in the mastoid secretion. In discussing the case with him, I asked him what his experience had been with the use of sulfanilamide in pediatric practice. His answer was that he got splendid results in cases of streptococcal origin but that every now and then he ran into a case in which the result was disappointing. Invariably these children were suffering from secondary anemia and he thought the lack of hemoglobin was probably the reason for the failure to get results. This is my excuse for talking to you—the thought that lack of hemoglobin had something to do with the failure to get results from sulfanilamide. I'd like to ask Dr. Yampolsky what his impression about this is in his work, whether he has observed that cases of secondary anemia are more apt to be disappointing in results than otherwise?

Dr. A. P. McGinty (Atlanta): I feel honored by the attention Dr. Yampolsky gave at the beginning of this paper to the work done by Dr. Lewis, Dr. Holtzclaw and myself. Since our preliminary report in the February Journal of this Association our further work has not been composed of anything that would change our opinion that nicotinic acid helps to relieve toxic symptoms associated with the administration of sulfanilamide. We have been impressed by the fact that patients showed no porphyrinuria and did not complain of unpleasant symptoms. In our work we have determined the presence of porphyrinuria by the spectroscopic method. However, this is not available to most practitioners. For your information I might say that Spies and his co-workers have an article in the May number of the *Southern Medical Journal* that describes a method suitable to any office laboratory. When the urine is acidified extraction is made with ether. To this ether extraction, add hydrochloric acid. Let it stand a few minutes. In the acid layer porphyrinuria presents pink to purple coloring. The pink to purple coloring is not always positive evidence of the presence of porphyrinuria. There may be other pigments. Whatever you have, these other pigments are caused to disappear also by the administration of nicotinic acid.

Dr. Yampolsky, at the beginning of his paper, also mentioned cyanosis and deduced the possibility of methemoglobin as being the cause of this. I believe in the majority of cases it is not possible to determine the presence of these substances, therefore I think it is interesting to note the publication that appeared in the proceedings of Internal Medicine and Biology in which the author pointed out that in a percentage of patients you found the blood stained after the administration of the drug. Put in picric acid (possibly some ultra violet light would not let it mix) the solution will turn purple. He pointed out that possibly due to some metabolic change in the body, probably the same change was taking place that would change the color or dye and not methemoglobin that causes cyanosis.

Dr. C. Hall Farmer (Macon): The late Dr. McKim Marriott used to say that differences of opinion made horse racing profitable and medical meetings interesting. I am sure that this applies to the discussion of the use of sulfanilamide and sulfapyridine. I do not wish to comment on the general use of the drugs but I would like to point out some of the results obtained in a study of the use of sulfapyridine in a series of pneumococcal infections, in both lobar and bronchial pneumonia, at the Macon Hospital. This study, incidentally, is being conducted by Dr. Fletcher Hanson and myself, Dr. Hanson observing the adult pneumonias and I have been observing the infants. We have on file records of about 60 cases of pneumococcal infections, some 31 or 32 being children, the age limit varying from four months to two years. The diagnosis in these patients had been confirmed by x-ray and laboratory methods. In a reasonable percentage of children we have been able to type the infections. We have to date had no deaths. Toxic symptoms have certainly been a minimum and I should say nothing more than a mild nausea in one

or two children has occurred. The temperature in these patients has reached normal within 36 hours after beginning the drug. The blood count, sulfapyridine concentration in the blood, typing of sputum and blood cultures were done in all cases. The study is as nearly complete as we are capable of making it.

I, too, would not advise the discarding of all other methods of treatment of pneumonia. I also recognize that most children with pneumonia survive. I do, however, feel that with the sulfapyridine we have a tremendous aid in the therapy of pneumonia in children.

Dr. Joseph Yampolsky (Atlanta): I would like to answer Dr. Norris first because I think it will have some bearing on the rest of the discussion this afternoon. The clinicians and not the men in the laboratories will be the final judges as to the value of this drug. When you have a case of pneumonia and the patient's temperature drops in 10 or 15 hours, and the patient is apparently well, you must believe that if this occurs in many cases, the treatment must have had something to do with it. I think I have been most conservative in this paper. My opinion is based not only on the experience of other men, but on my own experience. However, one must reserve judgment for sometime, because I am sure that all of you remember when some years ago a report came from Atlanta on the marvelous results of the intravenous use of mercurochrome in pneumonia.

Since this paper was written I noticed two excellent reports on the use of sulfapyridine in pneumonia in the *Journal of Pediatrics*. The work reported was from the Harriet Lane Ward of the Johns Hopkins University. Even in the pneumonias complicated by measles there was no fatality when sulfapyridine was used.

As to the dosage of this drug, it is very difficult to decide the amount necessary, but I think you can say approximately three-quarters of one grain per pound of body weight is sufficient amount. However, a warning should be issued that this valuable drug should not be used indiscriminately. Use it conservatively and carefully in patients amenable to treatment. Study and judge the results from the treated patients of this kind.

As for cyanosis is concerned, I have no more definite information than Dr. Simpson or Dr. McGinty has. Our work is done mostly on colored patients and if you can tell when they get blue, I wish you'd tell me. They get well apparently. There is no doubt in my mind but that the drug is toxic.

As far as the question of the Doctor from Savannah, on anemia and low hemoglobin—my experience, Gentlemen, is with patients who do not come from the finest homes in Atlanta. They are usually pretty well run down and anemic. I am impressed with the fact that sulfapyridine will cut down the number of hospital days and convalescence.

The Ninety-First annual session of the Medical Association of Georgia will be held at Hotel DeSoto, Savannah, April 23-26, 1940. Hotel DeSoto will be headquarters.

The Fifth Assembly of the U. S. Chapter of the International College of Surgeons will meet at the Florida Medical Center, Venice, Florida, February 11-14, 1940.

DOCTOR CRAWFORD W. LONG*

CHARLES C. HARROLD, M.D.
Macon

We men and women, fellow Georgians, who are interested in the University and in the story of our State, are gathered here today primarily to give honor to an alumnus of the University who graduated in 1835, namely, Dr. Crawford Williamson Long. The date as you all know has been selected because on March 30, 1842, just ninety-seven years ago, this fellow alumnus, living in a small village in North Georgia, performed the first surgical operation in the history of the world under general anesthesia. The story is now an old one, and it is not necessary to repeat how although he himself fully realized the importance of what he had done, and although he continued in this work and performed at least five or six other operations under full surgical anesthesia induced by giving the patient the fumes from sulfuric ether, Crawford Long did not publish his work for many years. All of us are more or less familiar with the fact that a New England dentist a few years later, with no knowledge of the work which had been done by Dr. Long, after full experimentation upon animals and upon his own self, not only became thoroughly convinced of the possibility of using ether to induce sleep, but was able to convince prominent surgeons in Boston that it could be done, and that it should be tried. It is not my intention today to go deeply into the discussion of the long struggles for recognition which faced the New England dentist, Dr. Morton, and the matter is now entirely settled, and the entire world recognizes the fact that our fellow alumnus was really the first in the field. It is extremely unfortunate that our Dr. Johnson had no Boswell, and that the Associated Press was not in existence ninety-seven years ago. Credit, therefore, has come very late.

When man has lived for two or three generations under certain surroundings, he becomes rather prone to believe that these surroundings are only natural, and even to believe that they are permanent. We are seeing

*Crawford W. Long Memorial Address at the University of Georgia, Athens, March 30, 1939.

today the utter falsity of the latter half of this statement. We in America have become so convinced that democracy is permanent, and even the last word in government, that it has come to us with a distinct shock to have to realize that it is a matter of argument. And so as we study the effect of the discoveries made by the small group of physicians and dentists and chemists one hundred years ago, we cannot understand the situation at all unless we can mentally transport ourselves back to the time when the control of pain was unknown. Pain is such a personal matter, that it is something no one can understand who has not had it. I am constantly surprised at the number of adjectives used in describing pain. We have for instance the use of the word "exquisite" in describing small, fine, delicate, acute, painful conditions. We then hear of "knife-like pain," of "excruciating pain," of "lancinating pains." As a matter of fact, there are probably at least twenty adjectives used in describing the condition.

I have always been interested in the very definite association between pain and fear. I really believe that the fear which accompanies the memory of pain is probably one of the greatest fears which man has. I remember about ten years ago having a patient who had been beaten by the Ku Klux Klan. After I had given him morphine and soothed him and put him to bed, he was lying there shuddering and sobbing like a child who had been punished. He then told me that he had been ordered to leave town by eleven o'clock the following morning, and asked me what I would do under the same circumstances. When I told him that I would put on my army pistol and walk up and down Cherry Street at eleven o'clock, his reply was absolutely characteristic of pain. This reply was, "Yes, you say that, but you have not been whipped." I will never forget the utter abject fear this man had of pain. Incidentally, he left Macon at daylight ten years ago, and has never returned.

It is, therefore, very hard for the average man and woman in this century to appreciate the terrible pain which mankind had suffered for centuries prior to the introduction of full general anesthesia. Once in a great while it happens even now that some surgery is done without any anesthesia. When this

is done, the individual never forgets it. I speak advisedly. As a matter of fact, it is absolutely impossible to estimate the benefit to mankind which has come as a result of the work and effort of this small group of physicians and dentists and chemists one hundred years ago.

Many men and women in Georgia are rather prone to attempt to describe our State of one hundred years ago as a State of high culture, and our civilization at that time only inferior to the age of Pericles. Among ourselves, I feel that we should be frank. Let us realize, therefore, that ninety-seven years ago this part of Georgia lying between the head waters of the Savannah River and of the Altamaha system was not a place of high culture, but as a matter of fact the villages were mere frontier towns. It seems to me, therefore, that all the more credit should be given to our friend when we realize that, having left Philadelphia which at that time was the seat of medical culture in America, our friend did not lose his ambition, and did not lose his vision. Working here among people who in the main were miserably poor, he practiced his profession to the best of his ability, receiving a mere pittance in the way of recompense. Within the last few weeks I have had the opportunity of studying the ledger of another doctor who was practicing medicine at the same time in neighboring Walton County. Distances to patients do not show in the ledger, but the amounts of money received for work were pitifully small. I note one entry however of Jan. 29, 1842, in which receipt is acknowledged for the amount of twenty dollars for attending a patient when she gave birth to triplets.

It would be extremely interesting to find out whether any of the three children born to Mrs. Alexander Malcomb in Walton County, in the country, attended by a country doctor on Jan. 29, 1842, did live and whether any of their descendants still owe their existence to the skill of a country doctor practicing in the red hills of Georgia nearly one hundred years ago.

The more we study the life of the doctor in Georgia in the country one hundred years ago, the more honor we feel like paying to Dr. Long.

It seems to me, however, that our day will

be wasted if our time is taken in praising our fellow alumnus without drawing some lesson from his life and from the lives of those of his kind, and attempting to apply these lessons to the present day. The entire world, certainly the so-called civilized world is in a condition of flux. Let us sincerely hope that when crystallization does set in, that the final product will be purified of dross and triple refined. At the immediate moment, however, the future is certainly uncertain. As this is true in the world at large, it is certainly true in the practice of medicine.

It is so easy for one who is directly concerned in any question to view the matter with microscopic eyes rather than in the large. I feel, therefore, that it is quite important in such times to try to get disinterested opinions. It is my intention, therefore, for a short while to discuss the medical profession of today, and to appeal to all my listeners that the questions be studied with an open mind.

Within the last few weeks I received a most interesting letter from one of our most brilliant alumni, the chairman of our Board of Regents, Hon. Marion Smith. His advice and help had been sought with reference to the practice of medicine in Georgia. We are all familiar with the fact that various discontented groups in America have been suggesting many changes and regulations regarding our very existence and method of living. Changes in the practice of medicine have been suggested which are so radical in nature that if carried out, physicians and surgeons in civil life will be as controlled and directed as privates in the army. Having occasion to consult Mr. Smith with reference to certain phases of the medical practice in Georgia, I was very interested in having him write that all of his life he had believed that the practice of law should be left to lawyers just as long as lawyers practiced their profession for the good of the people at large, and that no one should interfere with them unless they were harming the public. He then stated that he also believed that this was true with the practice of medicine, and with every group within the practice of medicine. It seems to me that if this attitude could be understood by the public at large, that we would have far less criticism, and physicians and surgeons throughout

America would continue in the future as we have in the past to take care of the sick and suffering, and that we would do so in the future as we have in the past more completely than is done by any other medical group in the world.

Personally, I sincerely hope that with all the discontent in the world, that the American public will realize the importance of slow and gradual changes of an evolutionary kind rather than attempt radical revolutionary methods. Please understand me; I do not believe that present conditions are ideal. I realize thoroughly that there are many people who need medical and surgical attention who cannot pay for it. I realize that hospitalization is needed by many people who cannot pay for it. I believe, however, that in the final analysis, these things will correct themselves. I believe that within the next few years the State will make larger and larger appropriations for the care of the poor. I am even optimistic enough to believe, I am certainly optimistic enough to hope, that at some time within the future, the State will recognize its responsibility, and even pay physicians and surgeons for taking care of the poor. In the meantime, I sincerely hope that the State (meaning the nation and the state and the county and the city) will not attempt to regulate every phase of our existence.

I can conceive of nothing more distasteful than having to practice medicine in time of peace under the direction of some clerk in a bureau. If such a time should come before I die, the State of Georgia will lose one professional tax of fifteen dollars, for I will go to the country and, like Ferdinand, sit under the trees and smell the flowers.

I do not wish this group to understand that the profession of medicine in Georgia is opposed to all changes, for we are not. We believe, however, that changes should be gradual, and that they should not be violent and revolutionary, since such changes would completely upset our entire economic life. As a case in point, practically none of us is opposed to voluntary insurance for hospitalization. On the other hand, most of us are bitterly opposed to compulsory insurance of any nature. As I see the situation, in our present

economic set-up there is no necessity in the world for the government compelling a successful business man or a successful professional man to carry government insurance to pay for hospital care. On the other hand, I do feel that the State should assume the responsibility for the hospital care of working people who in our present economic life are unable to acquire a surplus sufficient in amount to take care of them when they are ill. This hospital care, as I see it, should be paid for with tax funds, and I am even socialist enough to believe that doctors as well as nurses providing this care should receive pay for the same. Personally, I believe that such care should be provided in hospitals owned by the State or the county, and I further believe that doctors should be paid full-time salaries for this work just as they are paid for the care of the insane at Milledgeville. This will avoid endless confusion.

Returning to the question of hospital insurance, many of us have no objections in the world toward group hospitalization insurance operated on a non-profit basis. At the same time, certainly there is no objection in the world toward having the same types of insurance operated at a profit. Moreover, I would be much more satisfied with such insurance operated by regular insurance companies at a profit rather than have the government take over this entire matter. We people in America have become accustomed to business initiative, and most of us have been content under a civilization evolved around the same. As I see it, if the federal government is successful in its plans to take the profit out of the practice of medicine and surgery, and is also successful in a hospital insurance plan, operating the same without profit, then the federal government should also provide that people who are not ill enough to go into hospitals should be issued drugs and all forms of medical care when sick. Logically, if the government attempts to provide medical care without profit and through taxation, simply because this is a necessity, then the government should also provide many other things for the citizens. I have in mind light and water and food, and even automobiles. The more I have studied the question, the more I have come to the conclusion that if the fed-

eral government is to regulate every phase of our practice, then there is no reason why it should not regulate every phase of our life. Surely we Americans are not all children, and many of us are becoming disgusted at puerile logic in attempting to plan our entire lives for us. Life which is not worth working for, is not worth living.

Since the above has been written, there is an extremely interesting commentary, published throughout America on Sunday, March 26, written by one of the most brilliant women of the century, Dorothy Thompson. All of us believe that in time of war there should be no excessive profits from the manufacturing of war materials. On the other hand, in a short column and a half, Dorothy Thompson shows how our entire life in America would become utterly disarranged in time of war if immediately all profit is taken from our citizens. She states, and I believe that she is correct, that immediately on top of war we would have revolution. It is very hard for the average American to realize how closely all callings and professions have become interwoven. It is certainly true that anything which hurts one group of our citizens tends to hurt many other groups. If, therefore, the profession of medicine, embracing to some extent all branches having to do with the medical care of the sick; hospitals, drug stores, wholesale druggists, and chemists, become disorganized, it is almost bound to follow that repercussions will be felt throughout our entire economic life.

I am reminded of my old pioneer grandmother who was born in 1815 outside of the palisades at Fort Hawkins in a double log house which was the first hotel in future Macon. These pioneer folk, certainly many of them, developed a rather quaint philosophical view about life, and my grandmother was no exception. We still tell many stories about her such as changing her shoes each day from left to right and vice versa in order that they would wear longer. One of her frequent exclamations was: "Thomas, I do not know why it is, but somehow the best things always cost the most." A pioneer great aunt who crossed the plains and died at the advanced age of ninety loved to tell the story in her old age of trying to hire a Chinese cook,

and when the question of salary arose, the celestial replied, "What kind of cooking you want? I can do ten dollar cooking, or I can do twenty dollar cooking." We will find in America that if the federal government or the State government attempts to regulate the practice of medicine, placing all people in panels, and paying doctors the princely sum of an average of twenty-five cents per visit, that sick people in America will receive just about that much in the way of services rendered.

During the past ten years there have been many surveys made about the practice of medicine in America, and the cost of medical care. These studies embrace volumes. After the first big survey, a second survey was attempted by writing fifteen hundred fairly prominent physicians and surgeons in America calling for suggestions. From this list of fifteen hundred, a more radical group was selected, composed in the main of those of us who were apparently most insistent on governmental aid in caring for the poor. Having been in the first fifteen hundred, I was invited to join the more radical group of four hundred and thirty-nine. I declined stating that as I saw the situation, although medical care in America is not ideal, it is infinitely better than in most nations of the so-called civilized world, and far better than in the countries where it is closely regulated. I also made the statement that as I saw the situation, we have in America forty-eight states varying in size from Texas to Rhode Island, and in types of population from Connecticut to Wyoming. I stated that I felt that it was absolutely out of the question for any governmental bureau in Washington to regulate the practice of medicine in forty-eight states under such varied conditions. I believed then, and I believe now, that each individual state should take care of its own problems in the care of the poor. I believed then, and I believe now, that the less we are governed and directed in this matter from the outside the better off we will be. If we find in the future that it is impossible for an individual state to levy taxes to take care of the poor, then I suppose that it will become necessary for the federal government to levy such taxes, but I sincerely hope that if this does become necessary that all disposition and administration of

such funds will be in the hands of the individual states and not in charge of federal bureaus.

In this connection, I am reminded of a very philosophical opinion rendered by Dr. William Worth Hamilton of the Law Department of Yale. In this he calls attention to the fact that in the beginning the practice of medicine was really a craft, and that it is only lately that it has become an instance of competitive business. It is not my intention to follow this discussion much further, but I cannot agree with Dr. Hale in his final conclusions, since he seems to believe that competition of modern life and the demands of the individual in modern life have grown so excessively and rapidly, that it is impossible for them to be met by normal processes of evolution. Although I do not agree with him, his discussion is masterly, and he has come to the conclusion that all profit must be taken from the practice of medicine. Here, I feel that he is absolutely wrong. I agree with him that modern life is excessively complex, and I further realize that it has become increasingly difficult for many people to secure everything they desire. I firmly believe, however, that if the question of gain is taken from the practice of medicine, that physicians and surgeons will become hack horses or, at best, draft animals.

Dr. Hamilton in advising that profit be taken from the practice of medicine apparently believes that this should be done because of the fact that he believes the cost of medical care has become excessive although necessary. It seems to me that he might also consider the question of the cost of automobiles. Certainly at the present time, automobiles have become necessities. It is also unquestionably true that many people who do not have cars would like very much to own them. If the logic of Dr. Hamilton is followed to its ultimate conclusions, then automobiles should be manufactured at cost price, and if an individual cannot afford to buy, then the rest of the public should be taxed in order that he may be supplied with a car. This, of course, is utterly absurd. It seems to me, however, that it is almost as foolish to take all of the profit out of the practice of medicine.

As one who loves his profession, as one

who has practiced it for nearly forty years; as an alumnus of Georgia; as a citizen of the State and as one who loves it; allow me to plead with all Georgians who are interested in the State to go slowly and avoid further revolutionary changes in our economic life. We may not be the happiest people in the world, but it is hard to find a group which is happier. I am reminded of a captain in the old Second Georgia National Guard who was heckled in a political speech in one of our mill villages in Macon. A man in the crowd called out: "Yes captain, but folks allows as how you thinks you is better than other folks." Like a lightning flash the reply came back, "Well, I am as good as any, and a dern sight better than a lot."

Let us, therefore, in Georgia, as we complain of our lot, realize that we are not the world's economic problem No. 1, and let us stop looking to the outside for assistance. The State of Georgia is perfectly able to take care of itself, and the State of Georgia is perfectly able to take care of its poor who are well and of its poor who are sick. As Crawford W. Long left these halls one hundred and four years ago definitely intending to do his share in taking care of the poor as well as the near poor and the rich and the near rich in the red hills of North Georgia, so we also should face our future here in the State with the fixed determination that we also have our responsibilities, and we must not shirk them. Certainly we must not look to people from the outside to levy taxes upon us and then direct us in the settling of our problems, and tell us how to spend our own taxes.

Every man has his idols, and every man has or should have his ideals. Every college also has its idols, and these idols in colleges serve to shape the ideals of many young men and young women. Of course, Uncle Dave Barrow was the idol at the University during my time, and for many, many years his quiet gentle manner and his high ideals will be remembered by thousands. I do not know who was the idol one hundred years ago when Crawford W. Long left these halls. I am firmly convinced that such an idol was here, and I love to think that when Dr. Long left here one hundred and four years ago, that he left with the determination to do his work to the best of his ability, and to do it without

complaint. I rather imagine that there was someone here like Dr. Francis Delafield at Columbia a half century ago. I will never forget his closing lecture to the students in New York in 1901 after having lectured in medicine for thirty-eight years to literally thousands of young medical students all over America. As I have studied the life of Crawford W. Long, I cannot keep from wondering if he also did not know Francis Delafield and his ideals of life. Certainly as Dr. Long practiced in rural Georgia he literally lived the advice given by Dr. Delafield as he retired from teaching. His last words were these: "Remember always, young gentlemen, that you are not working for money, and you are not working for fame; but that you are searching after knowledge, and seeking to relieve suffering." If I had to write the epitaph for the grave of Crawford W. Long, these are the words I would use.

WHAT CONSTITUTES ADEQUATE TREATMENT OF SYPHILIS?*

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Syphilis is one of the most serious public health problems of the present day, and an important factor is its adequate treatment. The attending physician should constantly keep in mind the ability of the *spirochaeta pallida* to produce serious late lesions; and only by early, vigorous and continuous treatment can these complications be avoided. It has been recently estimated that there are over 500,000 new infections with syphilis in the United States each year. If these infections were left alone, or inadequately treated, we would expect approximately 25 per cent or 125,000 persons to develop central nervous system involvement or serious cardiovascular lesions. One must also consider the incidence of congenital syphilis, which in itself is a grave problem. There is no doubt that a large number of these patients are incorrectly handled, due either to laxity on the part of the attending physician or failure of the patient to cooperate. There

*For many references in this article, the author is indebted to the members of the Co-operative Clinical group, and their publication, "The Management of Syphilis in General Practice," distributed by the United States Public Health Service.

is no excuse for the dismissal of a patient whose treatment has been inadequate. Public health and hospital clinics are always available, if the patient is unable to pay for services. Many of the patients are willing and able to pay a small nominal fee—and should receive the cooperation of the physicians—since the arsenicals and bismuth preparations are furnished free by our State Health Department.

It is impossible in the beginning to tell whether the infected patient will be cooperative, for some of them are irresponsible and are not interested in whether or not they will develop late lesions. This group will always constitute a serious menace to public health and should be under legal control. It is of utmost importance to instruct every patient with syphilis when he first consults his physician. He should be fully informed about the important facts in connection with his disease, particularly its duration, and the length of time required to complete a cure, the approximate number of intravenous and intramuscular injections, the danger of complications and of late lesions. The contagiousness of his disease in the early stage should be stressed. The rapid disappearance of luetic lesions following a few injections of an arsenical preparation should be fully understood by the patient and he should be told that this does not constitute a cure. A printed list of instructions, which is free and published by the U. S. Public Health Service, should be given to every patient in order to emphasize the gravity of the disease. The importance of a spinal fluid examination before the termination of treatment should be stressed.

Since it has been proved that frequent relapses may occur as a result of insufficient treatment, emphasis must be placed on the fact that treatment should be continued for a period of eighteen months, in spite of an early reversal of the Wassermann blood test. Occasionally, in some instances, the serologic reaction fails to reverse even after months of treatment, and the patient may become discouraged. However, the patient should be advised that this occurrence does not indicate a serious prognosis. At the same time the physician should pay par-

ticular attention to the cardiovascular and the nervous systems, and if either is found to be involved, appropriate treatment should be instituted. If no pathologic changes are encountered treatment should not be continued indefinitely, even though the Wassermann test remains positive. One must rely upon his clinical judgment in the proper management of these patients.

The relatively inexperienced practitioner is able to carry out a routine plan of treatment in cases of early syphilis; but late cases may require the services of an experienced syphilologist. Radical cure can be assured the patient in early syphilis, but if the disease has existed for a year or more and the organisms have become firmly entrenched in the tissues, the treatment becomes more difficult. The original arsphenamine preparation remains the drug of choice, but due to the fact that it must be neutralized, and a larger amount must be given, neoarsphenamine has been recommended instead. Early syphilis cannot be cured by an arsenical preparation alone; this treatment must be combined with bismuth, mercury, or both. It has also been proved that far better results are obtained with an arsenical and bismuth combination than with an arsenical and mercury combination. In addition, fewer relapses are encountered. The insoluble salt, particularly the subsalicylate, is the drug of choice. Mercury is not a desirable drug but can be given along with bismuth if the patient is sensitive to arsenicals. Some clinicians advise the use of mercurial inunctions. It is well to remember that iodides can be given at various times throughout the course of the disease, because of its property to enhance the penetrability of the arsenicals and heavy metals. In elderly patients, mixed treatment consisting of mercury and potassium iodide can be given by mouth.

Expert syphilologists—as a result of past experience—advise that treatment must be continuous and not intermittent, as rest periods encourage relapses. The minimum duration of treatment is approximately forty weeks; however, in order to feel more assured, treatment should be prolonged to fifteen to eighteen months. Of course, one must realize that cure is a clinical pre-

sumption rather than an established fact. Clinical experience has proved that two years of observation or treatment gives the most satisfactory results. Patients who have received from twenty to twenty-nine injections of an arsenical and a similar amount of heavy metal are clinically well and free from relapses. If insufficient bismuth or mercury is given, relapses may occur. If the patient has been followed for two years or more and during this time he has had no symptoms of syphilis, a persistent negative blood test, negative spinal fluid and a negative physical examination, he can be dismissed as a clinical cure.

Best results are obtained in the primary stage before the blood test becomes positive, and a clinical cure is obtained in 83 to 86 per cent of cases. When treatment is instituted during the sero-positive stage, i.e., when the blood test is positive, cure is obtained in 53 per cent by average and 64 to 70 per cent by the best method. If the patient presents himself with secondaries accompanied by a positive blood test, cure is obtained in only 50 per cent of cases by average and 60 to 80 per cent by the best method.

In conclusion, I wish to emphasize again the importance of continuous treatment and the absolute necessity of utilizing both the arsenicals and heavy metals during the entire course of treatment. Continuous treatment should be given at least for one year after all signs and symptoms of the disease have disappeared. Blood tests should be taken at least at the beginning of and end of each arsphenamine course, and treatment continued regardless of the serologic result. Patients with latent and complicated syphilis requiring highly individualized treatment should be referred to a competent syphilologist.

Time will not permit discussing the various essential points which are so important in treating the patient, e.g., technic of intravenous administration, contraindications, preparation of patient, necessary equipment, preparation of solution, reactions, etc. Nor will I have time to discuss the treatment of congenital syphilis, syphilis in pregnancy, or neuro-syphilis, which is so vital and so important.

Although various schedules of treatment have been advocated, the following method represents the dosage and frequency of administration of neosalvarsan in several institutions where large numbers of syphilitic patients are treated. At times these directions must be modified to meet the indications in special cases. It is a continuous method and constitutes uninterrupted treatment without rest periods until the blood Wassermann reaction is repeatedly negative. It consists in successive courses of neosalvarsan and bismuth or mercury or both. Iodides, as already mentioned, are also indicated.

Many syphilologists recommend an overlapping of the heavy metal and the arsenical as a protection against neuro-recurrence. This can be accomplished by beginning the bismuth injections before the end of the arsenical course and continuing same through the period in which the arsenical is suspended and into the beginning of the next arsenical course. The bismuth is then suspended while the arsenical course is completed.

SCHEDULE OF TREATMENT

FIRST COURSE—

First week: Neosalvarsan on 1st (0.3 Gm.), 3rd (0.45 Gm.) and 5th (0.6 Gm.) days.

Second week to tenth week: Neosalvarsan (0.6 Gm.) on 5th day.

Eleventh week to twenty-fifth week: Mercury or bismuth preparation intramuscularly on 1st day.

No interval: Resume treatment, even if Wassermann reaction is negative, as follows:

SECOND COURSE—

First week: Neosalvarsan on 1st (0.3 Gm.) and 6th (0.6 Gm.) days.

Second week to ninth week: Neosalvarsan (0.6 Gm.) on 4th day.

Tenth week to sixteenth week: Mercury or bismuth every 5 days.

Interval: From 4 to 6 weeks. If Wassermann reaction is still positive repeat the second course.

In tertiary and latent syphilis, the patients are treated in practically the same manner as cases of secondary syphilis, although treatment should not be so intensive. Iodides are used more freely during this stage. It often takes years to obtain a negative blood Wassermann reaction in these cases and it is necessary to give a great deal more medication.

THE PRESIDENT'S PAGE

PRESIDENT'S MESSAGE

I hope that a Merry Christmas and a Happy New Year has been the experience of all members of the Association.

It seems to me, however, that our happiness would have been more evident if many of the vexatious problems confronting us had been solved in 1939. But we must not lose courage or determination, for our problems are small in comparison with those of most other countries. It is true that demagoguery and the threat of dictatorship hang over the medical profession of this country as never before, and that our vindication by the court of public opinion as well as by the courts of the land will be followed by a more covert attack by the government. Therefore, we must present a united front and urge our Senators and Congressmen to defend us against injustice and ultimate regimentation. Begin the New Year right by telling Senators and Representatives that we want no more plans originating in Russia or Germany, that we are anxious to fulfill and discharge every obligation to the public, and that we feel that we alone can determine the best methods of rendering medical services to the people.

We have reason to feel proud of the condition and accomplishments of the Medical Association of Georgia. The number of members exceeds that of any other period in its history. The spirit of cooperation is fine, and internal dissension is negligible and mostly confined to disputes as to local policies. However, we must not now assume an attitude of complacency, for our major problems are unsolved, and are nation-wide.

Let me again call the attention of all the County Societies to the importance of electing good officers. The County Society is the most important unit of medical organization, and its members should keep that important fact in mind when they elect a secretary or delegate. These are offices which should be held by men of loyalty, intelligence and energy. It requires much self-sacrifice and considerable financial loss to serve in these positions, but good service in any cause is never without its reward.



What would be our status if many were not willing to work constantly for the protection and safeguarding of professional rights?

There is one cause of some misunderstanding in the House of Delegates that needs correcting, and that is the too frequent introduction of resolutions by delegates without first receiving instructions from their county society. In some instances, resolutions from other organizations have even come before the House. All of these serve to cause confusion and retard progress.

The Ninety-first Annual Session of the Association will be at the DeSoto Hotel in Savannah, April 23-26. The Georgia Medical Society in its 135 years has witnessed many marvelous changes in scientific medicine. It has weathered many storms, some of pestilence, some of war, and many of internal discord. We are proud of its history, its contributions, and exceedingly proud of the harmony which it now enjoys. Every member bids you a cordial welcome, and is looking forward with pleasure to the meeting, which we hope may rival those of the past in pleasure and scientific benefits.

I want to express my thanks to all officers and members of the Association, to County and District Societies for their unfailing loyalty and many courtesies, and to the Woman's Auxiliary for its able support. I feel great pride in the Association and trust that the march of scientific progress will be unabated during 1940.

WILLIAM H. MYERS, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

JANUARY, 1940

PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

Printed below is the platform of the American Medical Association. Its eight brief paragraphs, or planks, contain information of interest to every Georgia physician.

The platform was drafted by the Board of Trustees of the A.M.A., and follows the principles set up by the Association's House of Delegates. Three of the delegates were from the Medical Association of Georgia.

Most of the readers of this article will be members of the A.M.A. Many of them will take it for granted the platform will be acceptable to our Senators and Representatives in Washington. Certainly the officers and duly authorized committees of this Association will do their best to cooperate with the A.M.A. in the interests of all concerned, but each Georgia physician can be of inestimable service to the people of this country, and to his profession, if he will write his Representative and Senators in Washington to support the A.M.A. platform.

The platform advocates:

1. The establishment of an agency of the federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need, for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the in-

digent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

BURNS

The many advances in the treatment of burns have made possible general improvement in the care of patients with these injuries. Therapy can now be directed on a definite scientific basis.

It was formerly taught that local attention to burned areas was of paramount importance. Knowledge of the general changes that occurred in each burned patient has shown the fallacy of such belief. Each burn should be considered to be serious regardless of its depth and the extent of its surface area. Few patients survive who have as much as 50 per cent body surface involvement, regardless of the depth of the injuries.

One's attention should be directed toward correction of the initial shock without respect to the lesion itself. The measures best suited for this purpose are: *opiates* in sufficient amount to relieve pain, the administration of *blood* as soon as suitable donors are obtained, and the replacing of *blood chlorides* which have been lost as a result of a deranged water-balance mechanism. It is known that fluid is lost from the surface of the injury, and that capillary changes permit further loss of both fluid and chlorides into the tissues. The administration of fluids, therefore, in the form of glucose and saline is important, but should not be done to the extent of increasing the edema taking place throughout the entire body. Hypertonic salt solution and repeated blood transfusions, when

judiciously used, best combat and prevent these changes.

It is evident that one cannot satisfactorily treat a burn without having available all laboratory aid to determine from day to day the extent of hemoconcentration, the degree of chloride loss, the amount of acidosis, and a means of determining the evidence of an imbalanced water mechanism.

It was thought by the original supporters of the inclusive forms of treatment, such as the so-called tannic acid, gentian violet and others, that these methods would prevent development of the toxemia which results from broken down products of tissue destruction. This idea has since been proved incorrect. In spite of this there are many advantages to this form of treatment: it affords comfort to the patient, it prevents further exposure of traumatized tissue, it lessens infection; and it prevents the necessity of repeated dressings, thereby minimizing the cost of treatment.

Many individuals on whom complete destruction of skin has taken place should not be treated routinely with tannic acid preparations. It has been said that the use of tannic acid in superficial burns will prevent early epithelization of the skin. This may be true, particularly if infection occurs beneath the protective coverings. However, with proper care of the burned surface before the application of tannic acid, this retardation of epithelial proliferation will not occur.

As yet there is no ideal treatment for burns. Each patient must receive individual attention. The selection of treatment should be based on the findings in each patient.

J. D. MARTIN, JR., M.D.

HONOR ROLL FOR 1940

1. Randolph County, Dr. W. G. Elliott, September 8, 1939.
2. Dougherty County, Dr. I. M. Lucas, Albany, December 21, 1939.
3. Hancock County, Dr. H. L. Earl, Sparta, January 5, 1940.
4. Glynn County, Dr. John W. Simmons, Brunswick, January 12, 1940.

PHYSICIANS' HOME

"A good man's fortune may grow out at heels." Lear: Act II, Sc. II.

Twenty years ago, at a meeting of physicians in New York City, one of them referred to the pitiable plight of a formerly prominent colleague who had grown old and was in want.

Out of this story came realization of the responsibility of the medical profession for those of its members who have spent their lives in the service of mankind and in the end found themselves without adequate means of support.

The medical profession knows only too well that few physicians make provision during the productive periods of their lives for the years when their places will gradually be taken by younger men. Others are stricken down before their time by accident or illness; if they live, they suffer want; when they die, they are haunted by fear of the future for their loved ones.

Organized medicine has a definite obligation to assist the less fortunate members of the profession. Recognition of this obligation has been strangely long delayed. In an effort to accept it, a group of physicians in New York City organized the Physicians' Home.

Physicians' Home is a membership corporation composed of physicians and others who are interested in assisting, or caring for, aged and infirm physicians, their wives and widows, and the orphans of physicians. No officer is permitted to receive any remuneration. To insure permanency of the institution and the continuation of specific policies, the Council of the Medical Society of the State of New York furnishes a list of names from which the members of Physicians' Home Corporation elect Directors at each Annual Meeting.

The Physicians' Home in New York tried the experiment of establishing a retreat in the country for the "guests of the profession" and found it impracticable. Uprooted from their communities and away from their relatives and old friends, these guests did not find the contentment that had been anticipated. Moreover, the overhead costs

(Continued on page 35)

GEORGIA DEPARTMENT OF PUBLIC HEALTHT. F. ABERCROMBIE, M.D., *Director***THE SCHOOL SANITATION PROGRAM**

The schoolhouse may be considered a factory for moulding the future citizenry of our state. This factory must be qualified to produce the best of human products. Therefore, it behooves us to see that the schoolhouse and grounds represent the highest type of sanitary environment. The human products so produced to supply the needs of civilization will in a great measure come from the Georgia farms. Then if rural Georgia is to continue as a nursery of human life for the State, it must be made healthful and attractive; it must provide conditions favorable for the best possible human production. The improvement of human health and welfare in rural Georgia is a problem of great significance in relation to our State welfare. The rural school should be as sanitary and wholesome in all particulars as the best home in the community. It should be pleasing and attractive in appearance, in furnishings and surroundings, so that the community as a whole may be proud of it, so that the pupils and teachers may take pleasure in caring for and improving it. Therefore, school sanitation is today one of the most important of public health problems.

More than one-half of the school children in the United States are attending rural schools. Country children attending rural schools in some sections are on the average less healthy and are handicapped by more physical defects than the children of the city schools. This seems to be true in many parts of the United States. Country children deserve at least as good health and as much happiness as city children. It is recognized more clearly every day that the public school is the strategic agency to provide for the children of each community not only the best possible methods of education but also the best possible methods of sanitation. The city schools are generally better in architectural design. They are usually connected to a safe municipal water supply, as well as connection to municipal sewers. On the other hand, the rural school must construct and maintain individual water supply, construct and maintain some sort of individual sewerage system. This usually involves the complex and difficult problem of drilling a well, pumping the water into the school, water distribution system and then providing for the final disposition of this water as sewage. Also many rural schools cannot be equipped with water under pressure and plumbing so it becomes necessary to provide as near as possible some means of sanitary outdoor toilets. Consequently, there rests a grave responsibility upon the state de-

partments of health and education in providing the best means of sanitation under given circumstances.

Bear in mind I am not discussing school hygiene. School sanitation and school hygiene should not be considered as synonymous terms. School hygiene is personal hygiene involving each individual teacher and pupil in the care of the human body. School sanitation refers to the school building and the care of the sanitary environment. School hygiene is a problem of the school nurse, the medical health officer or the public health nurse; whereas, school sanitation is a problem of the sanitary engineer or sanitarian. There are certain architectural features of design for school house construction, such as consideration of number of rooms, number of pupils per room, size and shape of the building and rooms, cubic feet of air space per pupil, amount and direction of light, and ventilation and heating. Such features as these are of secondary concern to the sanitary engineer engaged in public health work and are usually left to the architect who is a specialist in school building design. However, of primary importance to the sanitary engineer engaged in public health work are such features as the water supply and the sewerage system. In the fields of architecture and sanitary engineering it is generally recognized that the sanitary engineer, by public health training and experience, is best qualified for these problems. Such is necessarily consistent when we consider that the kind of water we drink and the manner in which we dispose of human waste has more to do with certain specific diseases than the air which we breathe, the light by which we read and the heat which warms our bodies. Consequently, I would divide the school health problem into three classifications as follows: Child hygiene by the medical health officer and the public health nurse; general building design by the school architect; water and sewerage by the public health engineer.

There are in the State more than 6,000 schools. This represents a population of approximately three-fourths of a million, including both teachers and pupils. Here is the health worker's exceptional opportunity, including medical health officer, sanitary engineer, and nurse, for reaching nearly 25 per cent of the total population of the State. In this school sanitation program this advantage has not been overlooked. Consequently, sanitary facilities at schools will primarily safeguard a large percentage of the population of the State, while secondarily it will be a means of public health education. This

school sanitation program is utilized as an educational demonstration in order to influence sanitation at the home. The child learns many things at school other than his general scholastic curriculum. Here he will learn that sanitation is the fundamental factor in the preservation of the public health. He will learn that sanitation and preventive medicine are synonymous, and that "an ounce of prevention is worth a pound of cure." The child will expect no better sanitary facilities at his home than he has been accustomed to at his school. These points are pertinent to say nothing of the educational value to the teacher who should fully realize responsibility in teaching sanitation to the pupils and in demonstrating such at the school. We are much concerned with public health education. Here is an opportunity to establish public health education in the schools. Here is an opportunity to teach the pupil that sanitation is the foundation for public health.

It is evident that the school principal or school teacher can take an important part in this valuable program. It is evident that the teacher could keep the local school board advised as to the needs for the improvement of the school water supply and the need for improvement of the sewerage system. Such would stimulate more interest in school sanitation by the local school board. It would stimulate a closer contact between the local school board and such agencies as the supervisor of school house construction of the State Department of Education and the Engineering Division of the State Department of Public Health. It is quite evident that if the school principal wants a new desk or a map such desire is promptly made known to the local school board. Why should not the same apply to a well improvement or an improvement in sewerage facilities. It is quite evident that directly at the school house there could be a greater interest in such matters. Why should not the principal or the teacher appoint an advanced and well qualified student to render each month a report on these sanitary matters which may be in turn presented to the local school board.

It is not the purpose of this discussion, nor will time permit, to describe technical sanitary details of design and construction. The purpose is to outline the need for school sanitation and the State program as it is operating at the present time.

The Georgia Department of Public Health will be glad to receive letters from those seeking information relative to improvement of sanitary conditions at the school, or requests may be made by your local school board for assistance.

It is true that available sanitary engineering service by the Georgia Department of Health is very limited. Therefore, sanitation of schools throughout the entire State will be a long and continuous program but in view of its importance

we must preserve at all times and continue steadfastly until we reach the goal so well expressed in paragraph 17 of The Children's Charter, "For every rural child as satisfactory schooling and health services as for the city child, and an extension to rural families of social, recreational and cultural facilities." Furthermore, we must inculcate into the minds of the public the wise saying of Benjamin Franklin that "public health is public wealth."

L. M. CLARKSON, *Director*,
Division of Sanitary Engineering.

PHYSICIANS' HOME

(Continued from page 33)

were disproportionate to the benefits. And the Directors of Physicians' Home concluded that a "physical home" should be deferred until sufficient endowment had been accumulated.

The annual dues and contributions of members of the Physicians' Home Corporation are applied to the relief of the "guests" of the Home. In some instances a monthly contribution from the Home will enable an aged and infirm physician to live in comfort with his family, in others he may be "boarded out" in congenial surroundings in his own community. And all at very small annual cost to each member of a State Medical Society—the price of a few cigars or nights at the movies.

Georgia needs a Physicians' Home. Is organized medicine in Georgia ready to take up the challenge?

* * * *

"He that will think to live till he be old, give me some help." Lear: Act III, Sc. VII.

WARREN COLEMAN, M.D.

WARREN COLEMAN, M.D.

Dr. Warren Coleman, formerly of New York City, is now spending the evening of his life in his old home, Augusta. He is a charming man and a courtly gentleman. He won recognition for his work on feeding typhoid fever patients at Bellevue Hospital, New York. Long interested in the affairs of organized medicine, Dr. Coleman has held various offices in the Medical Society of the State of New York. For many years he served on the Board of Trustees of Physicians' Home of that Society, and has experience that is valuable. Members are requested to give his article serious consideration.—Ed.

An eight weeks' postgraduate course in syphilis will be given at the New York University College of Medicine which will begin on January 29.

WOMAN'S AUXILIARY : OFFICERS 1939-1940

President—Mrs. Eustace A. Allen, 18 Collier Road, N. W., Atlanta.

President-elect—Mrs. H. G. Banister, Ila.

First Vice-President—Mrs. Lee Howard, 625 East 44th Street, Savannah.

Second Vice-President—Mrs. C. H. Richardson, Milledgeville.

Third Vice-President—Mrs. Loren Gary, Jr., Shellman.

Press and Publicity—Mrs. J. Harry Rogers, 134 Huntington Road, N. W., Atlanta.

Recording Secretary—Mrs. Cleveland Thompson, Millen.

Corresponding Secretary—Mrs. Olin S. Cofer, 948 Lullwater Road, Atlanta.

Treasurer—Mrs. R. A. Woodbury, Jr., 1232 Belmont Drive, Augusta.

Historian—Mrs. J. L. Nevil, Metter.

Parliamentarian—Mrs. L. W. Williams, 135 East 45th Street, Savannah.

GEORGIA MEDICAL SOCIETY AUXILIARY

Mrs. Lee Howard, of Savannah, first vice-president of the Woman's Auxiliary to the Medical Association of Georgia, talked on the Auxiliary's health education program as a feature of the meeting of the Auxiliary to the Georgia Medical Society, held in Savannah, November 10 with Mrs. L. M. Freedman, Mrs. Ralston Lattimore, Mrs. H. C. Frech and Mrs. Charles Usher hostesses. Mrs. Howard, introduced by Mrs. J. C. Metts, program chairman, stated that seven of Georgia's major health problems are being stressed this year, these being cancer, tuberculosis, communicable diseases, infant and maternal mortality, malnutrition and venereal diseases. Package libraries on these subjects are available from the State Department of Public Health.

The report on the conference on tuberculosis sponsored by the Auxiliary was given by Mrs. John Daniel, Jr. Mrs. L. W. Williams reported that the Auxiliary had arranged the booth at the fair for the Women's Field Army of the American Society for the Control of Cancer. The following members were appointed to assist with the street sale of the Tuberculosis Association seals on December 9: Mesdames G. H. Lang, John Daniel, Jr., L. W. Williams, G. M. Johnson, Rufus Graham, Elliott Wilson, H. H. McGee and Ralston Lattimore. Appointed to assist with transportation during the nurses' convention were Mesdames Julian K. Quattlebaum, E. C. Demmond, J. C. Metts, A. A. Morrison and L. W. Williams.

Mrs. G. H. Johnson was appointed to collect the Auxiliary's contribution to the Sunshine Unit pantry shower. The resignation of Mrs. J. H. Pinholster as treasurer was accepted with regret and Mrs. L. M. Freedman was elected to succeed her. Mrs. John Daniel, Jr., was appointed exhibit chairman and Mrs. Samuel Rosen was named to serve as co-chairman of Hygeia.

WARE COUNTY

L. W. Murphy, sanitary engineer in the department of typhus control, State Board of Health, spoke on November 7 in Waycross at a public health relations meeting sponsored by the Woman's Auxiliary to the Ware County Medical Society, in cooperation with the Society.

Due to illness, Miss Fannie B. Shaw, director of public health education for the State Board of Health, who had been announced as the speaker, was unable to attend the meeting held at the Y.M.C.A.

Mr. Murphy showed a film, produced by the United States Public Health Service and entitled "No Good on Earth." It was a picture of rats and their habits, showing the damage to property done by rats. The speaker estimated that each rat costs approximately \$22 in damage. Dr. G. E. Atwood, Ware County Commissioner of Health, pointed out that with a small cash outlay any residence or place of business can be easily rat-proofed and exhibited the ferrets belonging to the county board of health. Pamphlets on typhus fever, which is spread by rats, were distributed.

JACKSON-BARROW COUNTIES

The Woman's Auxiliary to the Barrow County Medical Society met recently with Mrs. W. T. Randolph at her home in Winder. The following officers elected: Mrs. Randolph, president; Mrs. S. T. Ross, vice-president; Mrs. E. R. Harris, recording secretary; Mrs. A. B. Russell, corresponding secretary; Mrs. C. B. Almand, treasurer; and Mrs. W. L. Mathews, historian.

The president appointed the following chairmen: health education, public relations and Hygeia, Mrs. A. B. Russell; organization and Jane Todd Crawford, Mrs. E. M. McDonald; legislation and health films, Mrs. C. B. Almand; press and publicity, Mrs. E. R. Harris; scrapbook, Mrs. S. T. Ross; archives, Mrs. W. L. Mathews; exhibits, Mrs. S. T. Ross and Mrs. E. R. Harris; Doctor's Day, Mrs. A. B. Russell; and student loan fund, Mrs. C. B. Almand.

Objectives for the Auxiliary, as outlined by the state president, Mrs. Eustace A. Allen, of Atlanta, were read and delegates were appointed to the Ninth District meeting in Cumming.

The following program on what women are doing in medicine and for public health was presented: "A Woman Who Couldn't Come Home—Miss Alice G. Carr, of Yellow Springs, Ohio," by Mrs. Alex Russell; "Lady of the Lab—Mrs. Sara Branham, of Oxford, Ga.," and "Angel of the Mountains—Mrs. Helen Harris, of Atlanta," by Mrs. E. R. Harris.

Iced drinks and cakes were served during the social hour which followed the meeting.

BALDWIN COUNTY

The Woman's Auxiliary to the Baldwin County Medical Society met on October 9 at the home of Mrs. Y. H. Yarbrough in Milledgeville, with Mrs. S. A. Anderson and Mrs. J. R. S. Mays co-hostesses. Dr. J. H. Litton, county health physician, gave an interesting and instructive talk on health education.

Committees were appointed for the year and members pledged themselves to follow the objectives as outlined by the state president, Mrs. Eustace A. Allen, of Atlanta, making health education their principal activity. Reports were given of the recent district meeting in Forsyth and plans made to attend the district meeting in December at Macon.

The importance of reading Hygeia and the monthly pages in the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA, as well as the column published the first Sunday in each month in *The Atlanta Constitution*, was stressed. Mrs. J. R. S. Mays was selected corresponding and recording secretary. Resolutions were read and adopted on the recent death of a beloved member, Mrs. W. M. Scott.

A social hour was enjoyed at the conclusion of the meeting.

FULTON COUNTY

Members of the Woman's Auxiliary to the Fulton County Medical Society enjoyed a most interesting talk by Dr. Felix B. Welton, medical missionary to China, at their November meeting, held at the Academy of Medicine in Atlanta. Dr. Welton, who was introduced by Mrs. Edgar H. Greene, program chairman, spoke on "The Practice of Medicine in China," gave his listeners a most enlightened picture of medical conditions in that country. Dr. Welton, a native of Moorefield, W. Va., spent seven years in the service of the Foreign Mission Board of the Southern Presbyterian Church in China, confined himself almost entirely to surgery. He expects to take up the practice of surgery in this country.

Mrs. Forrest M. Barfield, president of the Auxiliary, presided and Mrs. Walter Jernigan, secretary, and Mrs. Ross Brown, treasurer, gave reports. Mrs. W. C. Waters, chairman of the hospital committee, asked for contributions to a fruit shower to be given the children at Grady Hospital Thanksgiving and Mrs. Harry Rogers, chairman of press and publicity, urged members to read the Bulletin of the Woman's Auxiliary to the American Medical Association. Later luncheon was served by a committee with Mrs. Linton Smith chairman and Mrs. George Noble and Mrs. George Klugh, Sr., co-chairmen.

The Auxiliary sponsored a book review on "Inside Europe," by John Gunther, given at the Academy on November 17 by Mrs. Robert Church, Jr. Several hundred members and in-

terested listeners were delighted with the graphic way in which the talented reviewer brought out forcibly the highpoints on this book, which she calls "an encyclopedia of present-day Europe."

Mrs. Calvin Stewart was chairman for the review, assisted by Mrs. A. B. Anderson, co-chairman and Mesdames T. F. Davenport, J. Elliott Scarborough, H. H. Askew, Eugene Hauck, Alton V. Hallum, George Niles, Eugene Daniel, Stacey Howell, Philip Nippert, Worth Hobby, Elbert Agnor, Earl Quillian, W. F. Lake and Bagley Benson.

HABERSHAM COUNTY

Dr. and Mrs. Charles T. Hardman were hosts at a barbecue recently at their home at Tugalo Camp, guests being members of the Habersham County Medical Society and the Auxiliary. For several years Dr. and Mrs. Hardman have entertained the two groups at a barbecue and the event has become an annual affair that is anticipated with pleasure. A resolution of thanks was passed, expressing appreciation to J. E. Harvey, of Tallulah Falls, who was not present but who co-operated with Dr. and Mrs. Hardman in making the occasion possible.

Besides the large number of members of the society and auxiliary present other guests included Dr. and Mrs. W. B. Schaefer, Mrs. Tyler and Miss Cook, of Toccoa; and the Rev. and Mrs. Allen A. Phillips, of Tallulah Falls.

CHEROKEE-PICKENS COUNTIES

The Woman's Auxiliary to the Cherokee-Pickens Medical Society met recently at the Hotel Canton. Reports were given by committee chairmen and Mrs. T. J. Vansant told of the recent meeting of the Woman's Auxiliary to the Ninth District Medical Society, which was held in Cumming. Present were Mesdames C. J. Roper, Carter Brooke, T. J. Vansant, J. A. Faulkner, Grady Coker and J. T. Pettit.

HEALTH EDUCATION

Mrs. Lee Howard, of Savannah, first vice-president of the Woman's Auxiliary to the Medical Association of Georgia and chairman of Health Education, has written an interesting message on the important subject of Health Education. Mrs. Howard writes:

"Health Education is something in which all of us must, of necessity, be interested. But it is so easy to think we know when really we don't, to be satisfied with 'a little learning' and, as is often the case, to be willing to apply what knowledge we have to others and to ignore it as far as it applies to ourselves. And yet we know that to be really well in body and mind is a wonderful thing. It increases our value to ourselves, our families and our communities and makes living a joyful process.

"In the past there were many excuses for not being really educated along health lines, but now we do not know if we do not want to know.

if we will not take the trouble to assemble information and apply this information to our every day living. It is so easy to be complacent and not try to find the real facts for ourselves.

"There seems to be in our state, along with many others, a great field for more health education.

"Our medical profession, our State Health Department and other agencies are doing heroic work to better health conditions and to increase knowledge so that we may help ourselves.

"The Woman's Auxiliary to the Medical Association of Georgia has as one of its primary objectives the spreading of health education and its members are anxious to be of help in furnishing information and materials on this subject to any organization or person desiring them."

THIRD DISTRICT

Mrs. W. G. Elliott, of Cuthbert, was elected manager of the Woman's Auxiliary to the Third District Medical Society at the recent meeting held in Dawson, with the wives of the Terrell county doctors and the members of the Randolph County Medical Auxiliary as hostesses. Other officers elected were Mrs. C. P. Savage, of Montezuma, manager-elect; Mrs. L. S. Harp, of Marshallville, secretary-treasurer.

An interesting program was presented by a group of young dancers, following which the invocation was given by Mrs. J. H. Lewis, of Dawson. Mrs. Loren Gary, Jr., of Shellman, greeted the visitors and Mrs. Robert Pendergrass, of Americus, responded. The district manager, Mrs. Cox Wall, of Eastman, presided. Mrs. Eustace Allen, state president, and Mrs. Olin S. Cofer, state corresponding secretary, both of Atlanta, were present. Mrs. Allen made an interesting talk on Auxiliary work. District officers, district chairmen and county presidents submitted their reports. Following the meeting, the visitors were guests at a barbecue supper given by the doctors of Terrell and Randolph counties.

MRS. ALLEN HONORED

Georgia Auxiliary members will learn with keen interest that their president, Mrs. Eustace A. Allen, of Atlanta, was elected second vice-president of the Woman's Auxiliary to the Southern Medical Association at the recent meeting held in Memphis, Tenn. Mrs. Allen gave a beautiful and impressive memorial service commemorating members of the group who have passed away during the year at the closing session of the convention. Mrs. L. W. Williams, of Savannah, is councilor for Georgia.

Among Auxiliary members from this state who attended the convention were Mrs. Allen, Mrs. Olin S. Cofer, Mrs. John W. Turner and Mrs. Lee Bivings, all of Atlanta; Mrs. H. D. Allen, Jr., Mrs. J. R. S. Mays, of Milledgeville, and Mrs. William R. Lowe, of Milledgeville; Mrs. Harold Atkinson, of Macon; Mrs. W. L. Cooke,

of Columbus; Mrs. Quinney A. Mulkey, of Millen; Mrs. W. C. McCarver, of Vidette, and Mrs. David L. Wood, of Dalton.

ORGANIZED MEDICINE

Interest in organized medicine has increased throughout the United States. The Medical Association of Georgia has more members today than at any time in its history. Component societies of the Association are requested to report promptly the names of their officers and delegates for 1940.

COUNTIES REPORTING FOR 1940

Emanuel County Medical Society

The Emanuel County Medical Society announces the following officers for 1940:

President.....C. E. Powell, Swainsboro
Vice President.....S. S. Youmans, Oak Park
Secretary-Treasurer.....N. M. Akers, Swainsboro
Delegate.....R. G. Brown, Graymont
Alternate Delegate.....D. D. Smith, Swainsboro

Bibb County Medical Society

The Bibb County Medical Society announces the following officers for 1940:

President—J. I. Hall, Macon.
President-Elect—H. G. Weaver, Macon.
Vice President—T. L. Ross, Macon.
Secretary-Treasurer—A. M. Phillips, Macon.
Librarian—W. A. Newman, Macon.
Delegate—R. W. Richardson, Macon.
Delegate—Alvin E. Siegel, Macon.
Alternate Delegate—Leon D. Porch, Macon.
Alternate Delegate—W. R. Golsan, Macon.

Glynn County Medical Society

The Glynn County Medical Society announces the following officers for 1940:

President—M. E. Winchester, Brunswick.
Vice President—Webb Conn, Brunswick.
Secretary-Treasurer—J. W. Simmons, Brunswick.
Delegate—L. C. Mitchell, Brunswick.
Alternate Delegate—H. L. Schmidt, Brunswick.

Spalding County Medical Society

The Spalding County Medical Society announces the following officers for 1940:

President—T. O. Vinson, Griffin.
Vice President—Geo. L. Walker, Griffin.
Secretary-Treasurer—J. T. Leslie, Griffin.
Delegate—T. I. Hawkins, Griffin.
Alternate Delegate—T. B. Floyd, Jr., Griffin.

Douglas County Medical Society

The Douglas County Medical Society announces the following officers for 1940:

President—Thomas B. Taylor, Douglasville.
Vice President—C. V. Vansant, Douglasville.
Secretary-Treasurer—R. E. Hamilton, Douglasville.

Cobb County Medical Society

The Cobb County Medical Society announces the

following officers for 1940:

President—L. L. Welch, Marietta.
Vice President—M. M. Hagood, Marietta.
Secretary-Treasurer—W. H. Perkinson, Marietta.
Delegate—G. O. Allen, Marietta.

Carroll County Medical Society

The Carroll County Medical Society announces the following officers for 1940:

President—E. G. Kirby, Bowdon.
Vice President—W. E. Thomason, Carrollton.
Secretary-Treasurer—D. S. Reese, Carrollton.
Delegate—J. E. Powell, Villa Rica.
Alternate Delegate—S. F. Scales, Carrollton.

Whitfield County Medical Society

The Whitfield County Medical Society announces the following officers for 1940:

President—J. E. Bradford, Spring Place.
Vice President—Leo G. Temples, Dalton.
Secretary-Treasurer—H. J. Ault, Dalton.
Delegate—Trammell Starr, Dalton.

Upson County Medical Society

The Upson County Medical Society announces the following officers for 1940:

President—J. E. Garner, Thomaston.
Vice President—R. L. Carter, Thomaston.
Secretary-Treasurer—John D. Blackburn, Thomaston.
Delegate—Frank M. Woodall, Thomaston.
Alternate Delegate—John D. Blackburn, Thomaston.

Floyd County Medical Society

The Floyd County Medical Society announces the following officers for 1940:

President—Ralph N. Johnson, Rome.
President-Elect—W. A. Sewell, Rome.
Secretary-Treasurer—Warren M. Gilbert, Rome.
Delegate—Lester Harbin, Rome.
Alternate Delegate—Ralph N. Johnson, Rome.

Ware County Medical Society

The Ware County Medical Society announces the following officers for 1940:

President—Leo Smith, Waycross.
Vice President—K. C. Walden, Waycross.
Secretary-Treasurer—K. McCullough, Waycross.
Delegate—W. F. Reavis, Waycross.
Alternate Delegate—K. McCullough, Waycross.

Wilkes County Medical Society

The Wilkes County Medical Society announces the following officers for 1940:

President—R. G. Stephens, Washington.
Vice President—T. C. Nash, Philomath.
Secretary-Treasurer—H. T. Harriss, Washington.

Georgia Medical Society (Chatham County)

The Georgia Medical Society announces the following officers for 1940:

President—J. K. Quattlebaum, Savannah.
President-Elect—H. H. McGee, Savannah.
Vice President—L. J. Hahne, Savannah.

Secretary-Treasurer—S. Elliott Wilson, Savannah.
Delegate—C. F. Holton, Savannah.
Delegate—Howard J. Morrison, Savannah.
Alternate Delegate—J. W. Daniel, Jr., Savannah.
Alternate Delegate—M. J. Epting, Savannah.

Dougherty County Medical Society

The Dougherty County Medical Society announces the following officers for 1940:

President—W. B. Buckner, Albany.
Vice President—H. M. McKemie, Albany.
Secretary-Treasurer—I. M. Lucas, Albany.
Delegate—A. H. Hilsman, Albany.
Alternate Delegate—N. R. Thomas, Albany.

Bartow County Medical Society

The Bartow County Medical Society announces the following officers for 1940:

President—J. W. Stanford, Cartersville.
Vice President—A. L. Horton, Cartersville.
Secretary-Treasurer—W. B. Quillian, Jr., Cartersville.
Delegate—A. L. Horton, Cartersville.
Alternate Delegate—W. B. Quillian, Jr., Cartersville.

Jackson-Barrow Counties Medical Society

The Jackson-Barrow Counties Medical Society announces the following officers for 1940:

President—L. C. Allen, Hoschton.
Vice President—W. L. Mathews, Winder.
Secretary-Treasurer—J. H. Campbell, Commerce.

Walker-Catoosa-Dade Counties Medical Society

The Walker-Catoosa-Dade Counties Medical Society announces the following officers for 1940:

President—B. C. Hale, Rossville.
Vice President—Richard C. Shepard, LaFayette.
Secretary-Treasurer—Paul M. Golley, LaFayette.
Delegate—B. C. Hale, Rossville.
Alternate Delegate—H. F. Shields, Chickamauga.

Decatur-Seminole Counties Medical Society

The Decatur-Seminole Counties Medical Society announces the following officers for 1940:

President—H. B. Jenkins, Donalsonville.
Vice President—W. L. Wilkinson, Bainbridge.
Secretary-Treasurer—M. A. Ehrlich, Bainbridge.
Delegate—R. F. Wheat, Bainbridge.
Alternate Delegate—M. A. Ehrlich, Bainbridge.

Warren County Medical Society

The Warren County Medical Society announces the following officers for 1940:

President—H. B. Cason, Warrenton.
Secretary-Treasurer—A. W. Davis, Warrenton.
Delegate—H. B. Cason, Warrenton.
Alternate Delegate—A. W. Davis, Warrenton.

Thomas County Medical Society

The Thomas County Medical Society announces the following officers for 1940:

President—A. D. Little, Thomasville.
Vice President—L. L. Lundy, Boston.
Secretary-Treasurer—T. A. Futch, Jr., Thomasville.

Delegate—Ernest Wahl, Thomasville.
 Alternate Delegate—Rudolph Bell, Thomasville.

Butts County Medical Society

The Butts County Medical Society announces the following officers for 1940:

President—B. F. Akin, Jackson.
 Secretary-Treasurer—R. L. Hammond, Jackson.

Tift County Medical Society

The Tift County Medical Society announces the following officers for 1940:

President—C. A. Fleming, Tifton.
 Vice President—R. E. Jones, Tifton.
 Secretary-Treasurer—W. T. Smith, Tifton.
 Delegate—C. S. Pittman, Tifton.
 Alternate Delegate—E. L. Evans, Tifton.

Clarke-Madison-Oconee Counties Medical Society

The Clarke-Madison-Oconee Counties Medical Society announces the following officers for 1940:

President—Geo. W. Kelley, Carlton.
 Vice President—M. A. Hubert, Athens.
 Secretary-Treasurer—Loree Florence, Athens.

Chattooga County Medical Society

The Chattooga County Medical Society announces the following officers for 1940:

President—R. E. Talley, Trion.
 Vice President—Mary M. McLeod, Trion.
 Secretary-Treasurer—Lee H. Battle, Jr., Trion.
 Delegate—C. E. Magoun, Trion.
 Alternate Delegate—W. U. Hyden, Trion.

Hancock County Medical Society

The Hancock County Medical Society announces the following officers for 1940:

President—Horace Darden, Sparta.
 Secretary-Treasurer—H. L. Earl, Sparta.
 Delegate—C. S. Jernigan, Sparta.
 Alternate Delegate—H. L. Earl, Sparta.

Troup County Medical Society

The Troup County Medical Society announces the following officers for 1940:

President—D. E. Morgan, LaGrange.
 Vice President—Kenneth D. Grace, LaGrange.
 Secretary-Treasurer—E. T. Arnold, Hogansville.
 Delegate—W. P. Phillips, LaGrange.
 Alternate Delegate—C. W. Harvey, Hogansville.

NEWS ITEMS

DR. MARION C. PRUITT, Atlanta, has been appointed a member of the Council of the Southern Medical Association for a term of five years. He succeeds Dr. Edgar G. Ballenger, Atlanta, who was not eligible for re-appointment after he served the full time permitted under the constitution of the Association.

THE SIXTH DISTRICT MEDICAL SOCIETY met at Macon, December 7. Titles of papers on the scientific program consisted of: *Head Injuries* by Dr. Milford Hatcher, Macon; *Some Aspects of the Clinical Use of Sulfanilamide*, Dr. Harold C. Atkinson, Macon; *The Use of Vitamin K as Preparation for Surgery in Common Duct*

Obstruction, Dr. D. Henry Poer, Atlanta; *The Eyes as Related to Sinusitis*, Dr. J. Allen Smith, Macon; *Report of Four Recent Cases of Cancer of the Rectum and Recto-Sigmoid*, Dr. Chas. C. Harrold, Macon; *Conditions Associated with Deficiency of the B Group Vitamins*, Dr. V. P. Sydenstricker, Augusta. Dr. William H. Myers, Savannah, president of the Association, spoke on *Facing Our Problems*. The Bibb County Medical Society was host at a banquet given at Hotel Dempsey. Dr. Olin H. Weaver, Macon, was toastmaster. Officers were elected for the ensuing year.

STAFF MEETING OF GRADY HOSPITAL, Atlanta, was held on December 12. Dr. D. L. Deddens reported a case, *Tabetic Bladder Treated with Mecholyl*; discussed by Dr. M. K. Bailey and Dr. C. A. Eberhart. Dr. Ed Jones reported a case, *Mortality Following First Stage Thoracoplasty for Chronic Lung Abscess*; discussed by Dr. Carl C. Garver. Dr. C. E. Rushin is president of the staff, and Dr. Ben H. Clifton is chairman of the Program Committee.

THE GEORGIA MEDICAL SOCIETY, Savannah, held its 136th annual meeting on December 12. Officers and chairmen of committees made their annual reports. Officers for 1940 were elected.

DR. JAMES J. CLARK, Atlanta, spoke before a meeting of the Fulton County Woman's Auxiliary, December 1 on *Radiology*.

DR. WALTER R. HOLMES, Atlanta, was elected president of the Emory University Hospital staff on December 4; Dr. Alton V. Hallum, Atlanta, vice president; and Dr. Chas. A. Eberhart, Atlanta, re-elected secretary.

THE BIBB COUNTY MEDICAL SOCIETY met at Ridley Hall, Macon, January 16. Dr. C. K. McLaughlin read a paper on *Some Medical Aspects of Ophthalmoscopy*. The name of the Society has recently been changed.

THE CITY OF SAVANNAH announced the opening of the City Medical Clinic on November 27. Patients who have been visiting city physicians in their private offices will be expected to see them at the clinic located at 210 East Bay Street.

DR. J. H. KITE, Atlanta, superintendent of the Scottish Rite Hospital, Decatur, was elected president of the Bone and Joint Section of the Southern Medical Association at its recent meeting held in Memphis, November 22-24.

DR. THOMAS PHINIZY, Augusta, Richmond County commissioner of health, urges every one to regard malaria as a serious fever and to be guided by a physician's advice.

DR. AND MRS. W. H. HENDRICKS, Tifton, entertained members of the Tift County Medical Society and Auxiliary at dinner on November 29. Dr. Chas. C. Harrold, Macon, was guest speaker and discussed "Cancer."

DR. C. L. PENINGTON, Macon, has been elected a member of the Macon Hospital Commission.

THE FULTON COUNTY MEDICAL SOCIETY, Atlanta, met on December 21. Officers of the Society made their annual reports. Memorial services were held in honor of members who have died since their last annual meeting.

THE SECOND ANNUAL CONGRESS ON INDUSTRIAL HEALTH was held at the Palmer House in Chicago on January 15-16. Dr. C. W. Roberts, Atlanta, is a member of the Council on Industrial Health and presided at the meeting on the afternoon of the 16th.

THE THIRD DISTRICT MEDICAL SOCIETY met at Dawson on November 8. Titles of papers on the scientific program were: *Duodenal Intubation in the Diagnosis of Gallstones* by Dr. John E. Walker, Columbus; *The Selection of Patients for Radiation Therapy—Report of Cases*, Dr. R. C. Pendergrass, Americus; *Psychiatric Manifestations of Malnutrition*, Dr. Hervey M. Cleckley, Augusta; *Factors in Prostatic Obstruction*, Dr. Willis P. Jordan, Columbus; *Some Endocrine Disorders in the Female with Special Reference to Treatment with Male Sex Hormones*, Dr. Robert B. Greenblatt, Augusta; *The Treatment of Pneumonia*, Dr. W. G. Elliott, Cuthbert; *Allergy with Dust Extracts*, Dr. Francis Blackmar, Columbus. Randolph and Terrell Counties Medical Societies were hosts at a barbecue.

THE STAFF MEETING OF THE CRAWFORD W. LONG MEMORIAL HOSPITAL, Atlanta, was held on December 14. Chairmen of committees made their annual reports. Dr. Shelley C. Davis and Dr. Mark S. Dougherty reported a case *Retroperitoneal Hemorrhage with Paralytic Ileus and Unusual Reaction to Neoprontosil*.

THE THIRD ANNUAL SESSION OF THE ATLANTA GRADUATE MEDICAL ASSEMBLY was held at the Biltmore Hotel, Atlanta, January 15-18.

THE MEDICAL AND SURGICAL STAFF OF THE GEORGIA BAPTIST HOSPITAL, Atlanta, met on December 19. Dr. William G. Hamm presented interesting medical cases.

THE SOUTHEASTERN BRANCH SOCIETY OF THE AMERICAN UROLOGICAL ASSOCIATION met at Biloxi, Miss., December 8-9. Dr. Earl Floyd, Atlanta, president, presided. Dr. M. K. Bailey, Atlanta, was a member of the Executive Committee.

THE GEORGIA PEDIATRIC SOCIETY held its seventh annual meeting in Atlanta on December 16. Prominent speakers from West Virginia, New York City and Boston were on the program. Dr. L. H. Muse, Atlanta, president, presided. Other officers of the Society were Dr. R. C. McGahee, Augusta, president-elect; Dr. Leila Denmark, Atlanta, vice president; Dr. Don F. Cathcart, Atlanta, secretary-treasurer. Personnel of the program committee included Dr. Wm. Willis Anderson, Dr. Joseph Yampolsky and Dr. Harry Lange, all of Atlanta.

THE JACKSON-BARROW COUNTIES MEDICAL SOCIETY met at the Central Hotel, Commerce, on December 4. Dr. A. A. Rogers, Commerce, read a paper on *Kidney Infection*. Officers were elected for the ensuing year. The January meeting was held at the Harrison Hotel, Jefferson, on January 8.

THE OFFICERS OF THE MEDICAL STAFF OF PIEDMONT HOSPITAL, Atlanta, were elected on December 12, as follows: Dr. T. L. Tidmore, president; Dr. Guy C. Hewell, vice president; and Dr. William R. Minnich, secretary.

DR. H. G. WEAVER, Macon, has been elected a member of the Bibb County Board of Education.

DR. R. C. MCGAHEE, Augusta, has been appointed a member of the Richmond County Board of Health.

DR. AND MRS. E. R. CORSON, Savannah, were guests of Dr. Rudolph Matas, New Orleans, at dinner at the Forest Hills Hotel, Augusta, during the recent meeting of the Southern Surgical Association. Dr. Matas is professor emeritus of general and clinical surgery at Tulane University, New Orleans.

DR. HOWARD HAILEY, Atlanta, was elected chairman of the Section on Dermatology and Syphilology at the Memphis meeting of the Southern Medical Association.

THE BIBB COUNTY MEDICAL SOCIETY, Macon, met in Ridley Hall January 2. A moving picture, *Depressed Fractures of the Skull*, was shown; discussed by Dr. O. H. Weaver, Dr. Milford Hatcher and Dr. Robert McAllister.

If interested in a location to practice medicine with ample territory, write the Secretary-Treasurer.

THE WARE COUNTY MEDICAL SOCIETY met in the Community Hall at Blackshear on January 3. Dr. L. M. Hawkins, Dr. G. T. Hendry, Louis H. Oden, Jr., Dr. T. E. Oden were hosts to the doctors and their wives at dinner.

THE ANNUAL BANQUET OF THE FULTON COUNTY MEDICAL SOCIETY was held on January 4. Officers installed for the ensuing year were: Dr. Chas. E. Rushin, president; Dr. Howard Hailey, president-elect; Dr. Sam W. Perry, vice president; Dr. J. G. McDaniel, secretary-treasurer; Dr. B. Russell Burke, member of the Board of Trustees; Dr. J. Calvin Weaver, member of the Judicial Council. The annual meeting of the Society was held at the Academy of Medicine, Atlanta, December 21. Dr. Edgar H. Greene, past president, delivered the *President's Address*; Dr. Chas. E. Boynton conducted the *Memorial Exercises*; Dr. W. S. Dorrough, chairman of the Judicial Council, submitted the Council's report; Dr. M. T. Harrison, secretary-treasurer, submitted his report; and Dr. J. T. Floyd, chairman of the Board of Trustees, presented the report of the Trustees.

DR. DANIEL C. ELKIN, Atlanta, was appointed professor of surgery under the \$250,000 Joseph B. Whitehead Foundation at Emory University School of Medicine.

DR. OLIN H. WEAVER, Macon, has been appointed chief surgeon and gynecologist at the Macon Hospital. Dr. Thomas Harrold was appointed senior gynecologist.

NORTH GEORGIA HEALTH WORKERS met at Athens on December 13. Dr. W. W. Brown, Clarke County commissioner of health, arranged a health exhibit which was opened to the public. Dr. T. F. Abercrombie, director of the State Department of Public Health, spoke on *State Health Problems*. Dr. J. E. Lester, Marietta, presided at the meeting.

THE JONTE EQUEN MEMORIAL LECTURE will be delivered at the Biltmore Hotel, Atlanta, by Dr. Harris P. Mosher, Boston, Massachusetts, at 8:00 P. M., January 26. Dr. Mosher will speak on *Sinus Diseases—Osteomyelitis of the Frontal Bone* and will illustrate with motion pictures and lantern slides. Dr. Mosher is professor of otology and laryngology at Harvard University Medical School, Boston, and is well known throughout medical circles. He has written many books on otology, laryngology and rhinology, and is past president of all the important societies which represent these branches of medicine. The members of the Medical Association of Georgia are cordially invited.

THE THOMAS COUNTY MEDICAL SOCIETY met at the Archbold Memorial Hospital, Thomasville, December 20. Dr. J. F. Wilson, Jacksonville, Fla., read a paper on *Dermatophytosis*; Dr. Exum Walker, Atlanta, *Relief of Pain by Neurosurgical Methods*; Drs. Hal M. Davison and Mason I. Lowance, Atlanta, *Food Allergy—Report of Cases Illustrated with Lantern Slides*; Dr. Ernest F. Wahl, Thomasville, *Report of Cases of Unusual Allergic Reactions*. Dinner was served at Glen Arven Country Club.

THE STAFF OF GRADY HOSPITAL, Atlanta, met on January 9. The Ciba Pharmaceutical Products, Inc., furnished a talking motion picture which was shown on *The Use of Coramine (Nicotinic Acid)*.

THE BULLETIN OF THE FULTON COUNTY MEDICAL SOCIETY, published January 4, Vol. 14, No. 1, contains an article by Dr. M. T. Harrison, former secretary-treasurer of the Society, which gives a short sketch of its history with the original suggestion that the Society publish a bulletin, names of contributors and others who have been helpful and useful in making the undertaking a success. Among the names mentioned are: Dr. Allen H. Bunce, Dr. Herbert L. Treusch, Dr. O. O. Fanning and Miss Fay Hollis.

DR. J. E. LESTER, Marietta, has been re-elected Cobb County Commissioner of Health for the fifteenth consecutive year. He stated that the aims of the Cobb County Board of Health were to prevent communicable diseases, especially diphtheria, syphilis and tuberculosis and the organization of clinics to treat indigent syphilitic patients and for prenatal care.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on January 9. Dr. J. S. Howkins read a paper entitled *The Continuous Treatment of Early Syphilis—Illustrated with Lantern Slides*; Dr. C. F. Holton and Dr. Conrad Kinyoun led the discussion. Dr. M. J. Epting reported on the attendance at the meeting of the Southern Surgical Society.

THE STAFF OF THE CRAWFORD W. LONG MEMORIAL HOSPITAL, Atlanta, met on January 11. Dr. J. Calvin Weaver reported a case of *Spontaneous Subarachnoid Hemorrhage*. Dr. William F. Lake was installed president; Dr. C. M. Warnock will continue as secretary.

ANOTHER GEORGIA PHYSICIAN IN TROUBLE

Another Georgia physician failed to pay his medical dues. In fact, he quit paying dues in 1935. He is now being sued by a former patient. When he was confronted with trouble—a suit in the courts—his thoughts turned to the Medical Association of Georgia. His application for medical defense had to be turned down, for the reason his membership had lapsed.

However much the members of this Association sympathize with this physician, one wonders why he permitted his name to be dropped from the membership roll. Surely he has received the many letters from the various officers of the Association calling his attention to the benefits of membership in his county medical society and the State Medical Association, including the medical defense feature.

Dues must be paid each year. The by-laws of this Association are liberal, however: they give one until April 1 to pay dues. No one is eligible for medical defense unless his dues have been paid. Honorary and associate members are not required to pay dues, but should qualify for regular membership if they wish medical defense and other privileges of the Association. Each member, therefore, should pay his dues to his county secretary and assure himself of all benefits of the Association.

OBITUARY

Dr. James Miller Erwin, Calhoun; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1898, aged 75; died in a local hospital from injuries by an automobile on October 26, 1939. He spent most of his life in Gordon County. He began practice at Fairmount and in a short time located at Calhoun. His parents were pioneer citizens of Fairmount. Dr. Erwin was active in professional, civic and religious affairs, an able and conscientious physician with hundreds of warm personal friends. Surviving him are one daughter, Mrs. L. B. Reed, Chattanooga, Tenn., and one son, James Erwin, Calhoun. Rev. W. H. Gardner, Rev. T. E. Davis

and Rev. W. G. Cutts officiated at the funeral services conducted from the First Methodist Church. Burial was in Fain Cemetery. The physicians of Gordon County formed an honorary escort.

Dr. Stephen R. Mitchell, Pineview; member; Southern Medical College, Atlanta, 1887; aged 84; died at his home on November 3, 1939. He practiced medicine in Wilcox and adjoining counties for more than fifty years. Dr. Mitchell was ordained as a Baptist minister and conducted many revivals. People were attracted to his meetings from many miles away. In later years, after reaching such a mature age, he confined most of his religious activities to teaching his bible class. Dr. Mitchell had the distinction of making a success of his undertakings as a pharmacist, practicing physician and preacher. He had hundreds of friends among the poor, wealthy; white and black. Dr. Mitchell was a member of the Wilcox Medical Society and the Pineview Baptist Church. Surviving him are his widow; six sons, Marvin Mitchell, Felsmere, Fla.; Pope Mitchell, Pineview; Dr. Chas. H. Mitchell and Rev. John Mitchell, Atlanta; Norman Mitchell, New York City; and William Mitchell, Cleveland, Ohio; four daughters, Miss Grace Mitchell, Fitzgerald; Miss Nell Mitchell, Pineview; Mrs. Curtis Dedge, Alma; and Mrs. T. F. Petway, Atlanta. Dr. A. Chamblee, Rev. L. B. McMichael and Rev. S. W. Latimore officiated at the funeral services conducted at the Mount Pleasant Baptist Church. Members of the Wilcox County Medical Society with other physicians from Atlanta, Finleyson, Baxley, Homerville, Rochelle, Abbeville and Pitts formed an honorary escort.

Dr. Thomas W. Taylor, West Point; member; University of Georgia School of Medicine, Augusta, 1892; aged 74; died at a local hospital on November 1, 1939. He was a native of Harrison. Dr. Taylor made his home in the Gray Hill community near West Point for many years. Dr. Taylor was a prominent physician and had many friends. He was a member of the Masonic lodge and Lutheran Church. Surviving him are his widow, one daughter, Mrs. Thomas W. Williams; one sister, Mrs. W. C. Ector, Columbia, S. C.; four brothers, Ben and John Taylor, Harrison; Louie Taylor, Atlanta, and Henry Taylor, Decatur. Rev. Harvey King officiated at the funeral services conducted at Bethel Church. Interment was in the churchyard.

Dr. Russell Ernest Ponder, Rome; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1899; aged 62; died at his home on November 8, 1939. He was a native of Cherokee County and moved with his parents while a youth to Rome. He began practice in Bartow County, then practiced at Bremen, thence moved back to Rome where he spent the remainder of his life. He was a member of the Second Avenue Methodist Church. Surviving him are four daughters, Misses Margaret and Mary Kate Ponder, Rome; Mrs. H. P. Lloyd, Lindale; and Miss Faith Ponder, New York City. Rev. S. H. Dixon and Rev. W. F. Conn officiated at the funeral services conducted at the Second Avenue Methodist Church. Burial was in East View Memorial Cemetery.

Dr. John Franklin Anderson, Hillsboro; member; College of Physicians and Surgeons, Baltimore, Md., 1885; aged 79; died at his home on December 3, 1939. He was one of four surviving members of the class of 1881 of Mercer University, Macon. Dr. Anderson had practiced medicine in Jasper and adjoining counties for more than fifty years. Dr. Anderson wrote the office of the Association a number of years ago that in former years he had been prosperous with the people of his section; and at that time the people were in the heart of a depression, unable to pay for his practice, and that he was willing to share their fate; was practicing without compensation and that he would continue so long as the people needed his service, regardless of compensation. This seemingly showed his loyalty to his former clients and friends. Surviving him are his widow; one daughter, Miss Sadie May Anderson, Hillsboro; three sons, Guy L. Anderson, Gray; J. Sam and Robert T. Anderson, both of Hillsboro. Funeral services were conducted at the graveside. Burial was in the family cemetery.

Dr. Stephen Leander Cheshire, Thomasville; member; Emory University School of Medicine, Emory University, 1914; aged 53; died of heart disease at a local hospital on December 2, 1939. He was a native of Hartsfield. While a resident of Thomasville, he held many important offices; member of the Thomas County Medical Society, chairman of the Thomas County Board of Health, and chairman of the board of deacons of the Baptist Church. Dr. Cheshire was a prominent and successful physician and had many friends. Surviving him are his widow, three daughters, Mrs. W. B. Redding and Mrs. Fritz Froberg, both of Thomasville, and Miss Frances Cheshire, student at the Georgia State College for Women; one son, Howard Cheshire, student at the University of Georgia School of Medicine, Augusta. Dr. T. F. Callaway and Rev. Mack Anthony officiated at the funeral services conducted from the Baptist Church. Interment was in Laurel Hill Cemetery. Members of the Thomas County Medical Society were honorary pallbearers.

Dr. Robert Maxwell Harbin, Rome; member; Bellevue Hospital Medical College, New York City, 1888; aged 76; died on December 12, 1939, after an illness of several months duration. He was a native of Fairplay, S. C., and while quite young moved with his parents to Calhoun, Ga. He received his collegiate education at the University of Georgia where he graduated in 1885. Dr. Harbin began practice in Rome in 1894, and in 1903 he and his brother, Dr. William P. Harbin, founded the Harbin Hospital. Until recently he had practiced continuously in Rome and surrounding territory since 1894 and had become a beloved physician, friend and counselor to hundreds in all walks of life. He was a member of the Floyd County Medical Society, American Medical Association, charter member of the American College of Surgeons, and the First Baptist Church. Surviving him are his widow, one son, Dr. Robert M. Harbin, Jr., and a daughter, Mrs. Allison W. Ledbetter; one brother and three grandchildren. Dr. Bunyan Stephens and Rev. John W. Melton officiated

at the funeral services conducted at the First Baptist Church. Burial was in Myrtle Hill Cemetery. The following members of the staff of the Harbin Hospital were pallbearers: Dr. Wm. P. Harbin, Jr., Dr. Geo. B. Smith, Dr. Lester Harbin, Dr. W. A. Sewell, Dr. Robert C. Maddox, Dr. Geo. A. Billinghamurst, Dr. Warren Gilbert and Dr. Edward Bosworth.

Dr. Ross Parker Cox, Rome; member; Jefferson Medical College of Philadelphia, Pa., 1889; aged 75; died in a local hospital on December 15, 1939, after a lengthy illness. He was a native of Citronelle, Ala. Dr. Cox received his collegiate education at Emory University, Oxford, Ga. After he graduated in medicine, he studied at the University of Vienna in 1896-7 and again in 1928. He was assistant in the Battey Infirmary at Rome for a number of years; served at the Georgia School for the Deaf from 1901 to 1937, and was attending surgeon of the Veterans' Bureau from 1919 to 1929, and was an associate on the staff of the Harbin Hospital until his death. He was one time secretary of the Rome Board of Education and president of the Coosa Country Club. Dr. Cox was a member of the Floyd County Medical Society, American Medical Association and the First Methodist Church. He limited his practice to diseases of the eye, ear, nose and throat. Was a successful practitioner with many warm personal friends. Surviving him are his widow and one daughter, Mrs. Richard W. Smith, Atlanta. Rev. Geo. M. Acree officiated at the funeral services conducted at the First Methodist Church. Burial was in Myrtle Hill Cemetery. Members of the Floyd County Medical Society served as pallbearers and as an honorary escort.

BOOK REVIEWS

Circulatory Diseases of the Extremities by John Homans, M. D., Clinical Professor of Surgery, Harvard Medical School. Cloth. Price, \$4.50, pp. 330, with illustrations. New York, The Macmillan Co., 1939.

The advances in the diseases of the circulatory system have been extensive and far reaching. It is altogether fitting that they should be recorded and brought together. This has been admirably done by Dr. John Homans who has long been known as an authority in this field. His writings, particularly concerning varicose veins, thrombophlebitis and elephantiasis have done much to clarify these common though frequently baffling conditions.

This book gives a short but graphic account of the various circulatory diseases of the extremities including thrombosis, thromboangiitis obliterans, embolism, aneurysm, arteriovenous fistula, varicose veins and the more uncommon circulatory conditions which have to do with disorders of the sympathetic nervous system. This is a wide field, but the subjects are covered in a short, concise, and understandable manner. The practitioner, and he is usually the first to meet these disorders, should be able with the aid of this work to recognize most of them.

In the discussion of the diagnosis of these various ailments the tests of the peripheral circulation are explained and discussed, and the most important opera-

tive measures outlined and illustrated. The book is well documented so that the reader may easily continue his studies of the most significant monographs on this subject in literature. It follows the easy readable style which has marked the other contributions of the author.

D. C. ELKIN, M.D.

Accepted Foods, and Their Nutritional Significance, a publication of the Council on Foods of the American Medical Association. Cloth. Price, \$2.00 postpaid. Pp. 512; Chicago: American Medical Association, 1939.

Accepted Foods, and Their Nutritional Significance contains descriptions and detailed information regarding the chemical composition of more than 3,800 accepted products, together with a discussion of the nutritional significance of each class of foods. The book provides also the Council's opinion on many topics in nutrition, dietetics and the proper advertising of foods.

This book will be a welcome reference book for all persons interested in securing authoritative information about foods, especially the processed and fabricated foods which are widely advertised. The accepted products are classified in various categories; fats and oils; fruit juices, including tomato juice; canned and dried fruit products; grain products; preparations used in the feeding of infants; meats; fish and sea foods; milk and milk products other than butter; foods for special dietetic purposes; sugars and syrups; vegetables and mushrooms; and unclassified and miscellaneous foods, including gelatin, iodized salt, coffee, tea, chocolate, cocoa, chocolate flavored beverage bases, flavoring extracts, dessert products, baking powder, cream of tartar, baking soda, cottonseed flour. There is a suitable subject index as well as an index of all the manufacturers and distributors of food products that stand accepted by the Council on Foods.

Accepted Foods is indispensable for the library of every physician concerned with foods and nutrition.

COMMUNICATION

MEDICAL CARE FOR THE LOW INCOME GROUP

To the Editor:

How can Georgia doctors meet the widely publicized need for medical care?

In view of the recently published "Platform of the American Medical Association, in both the press of the nation and in a recent issue of *The Journal* of that body; together with the constantly increasing trend toward socialized medicine, it has occurred to me, after endeavoring a few years ago to institute a plan of group medical practice in our local society, that now is the time for devising a workable plan among all Georgia doctors to provide adequate medical care on a prepayment basis at moderate costs for that large majority of low and middle income groups; the services rendered to be on individual fee bases of fixed minimum and maximum charges for rural and urban practice up to a fixed maximum service to each certificate holder.

I do not know what our ancient charter from the State permits the State Association to do, or forbids its doing. Group health insurance by old line companies,

or mutual companies, is something never thought of by the social groups that need such protection in the provision of hospitalization and medical care, nursing and drugs. However, I believe that both group and individual memberships in a widespread coverage at moderate rates could be had in sufficient quantities to cover the expectancy of illness and adequately provide for its proper care.

This organization could be formed along the lines of the group hospitalization plan, now working successfully in many places in Georgia. It might be the organization of the whole profession, or it might be a subsidized or mixed group of laity and profession; or some Georgia chartered insurance company, sponsored by and working with the Medical Association of Georgia mainly in the matter of selling certificates to employee groups and individuals, doing the bookkeeping, collecting the premiums, paying the bills, etc., in the capacity of management only, with fixed percentage for such service.

Each component society would be a subsidiary corporation to render the services required, thus allowing the widest possible choice of physicians and retaining the vital doctor-patient relationship.

Obviously government and society must continue to provide for the needs of the indigents. This should be done under the supervision entirely of local governmental entities; but government subsidies might be used for the plan I have suggested on purely a non-commercial, non-profit basis, so far as the organization itself is concerned. The idea is primarily to meet the obvious need, next to provide relief in an ethical way by the profession as a whole, and without waste and extravagance, using all available present facilities, and seeking constant progress in the provision of such facilities where inadequate. If this idea is not too nebulous, I trust it might crystallize into some sort of guiding star leading us to a realization of the ideal of service to humanity I feel every doctor in Georgia has dedicated his life to.

JOHN W. SIMMONS, M.D.

Brunswick, Georgia

December 13, 1939.

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The fourth annual meeting of the New Orleans Graduate Medical Assembly will be held at the Roosevelt Hotel, February 28-29, 1940, honoring Dr. Rudolph Matas, Professor of General and Clinical Surgery, Emeritus, Tulane University School of Medicine. Dr. Matas is nationally and internationally known for his work in the fields of vascular surgery and a reception will be given on the opening night of the meeting as a tribute to his sixtieth year in active practice.

In keeping with the established policy, eighteen guest speakers have been carefully selected because of their actual experience and their ability to present their subjects. The program has been planned to meet the needs of all members of the profession and although the subjects will be approached from specialized viewpoints, the presentations will be of a strictly practical nature and of great value in keeping all groups abreast with medical progress. The Program Committee has es-

pecially planned to have allied subjects on the same or successive days.

Also included in the program will be daily round table luncheon discussions, approximately four hundred feet of outstanding scientific exhibits, medical motion pictures and fifty-two interesting technical exhibits. In addition, there will be a symposium, a clinical pathological conference and an escorted tour of the new \$12,500,000 Charity Hospital which accommodates 2,500 bed patients.

Because of the wealth of clinical material in New Orleans, and in response to the many requests from registrants, the New Orleans Graduate Medical Assembly will conduct clinics in medicine, surgery and allied specialties in the hospitals on Friday, March 1, the day following the scheduled Assembly dates.

The registration fee of \$10.00 covers all of the above features, including the reception and daily round table luncheons. The program is well planned and the meeting will be an enjoyable and profitable vacation. For further information write, The New Orleans Graduate Medical Assembly, 1430 Tulane Avenue, Room 105.

PROGRESS IN TREATMENT OF PNEUMONIA

In summarizing the great advances that have been made in the development of sulfonamide derivatives for the treatment of bacterial infections, Lord (New England J. Med., 221: 570, 1939) points out that reduction in the fatality rate of pneumonia from 25 per cent to 7 per cent has been brought about in a large group of adults treated with sulfapyridine. The combined use of sulfapyridine and antiserum will doubtless prove more effective than either alone.

It is desirable to begin treatment with sulfapyridine as soon as the diagnosis is established. If no sputum is available, examination may be made of material taken on a pharyngeal or laryngeal swab, and blood cultures should routinely be made at suitable intervals. In view of the possibility of toxic reactions, blood examinations should include hemoglobin, red-cell, and white-cell determinations and differential counts.

In treating a case with sulfapyridine, it is helpful to make daily determinations of the level of sulfapyridine in the blood. From 3 to 6 mg. per cent of the free drug is ordinarily sufficient for the desired chemotherapeutic effect. Upon the request of physicians Eli Lilly and Company will supply a pamphlet which includes an outline of this method, as well as full details of the treatment.

ARTICLES ACCEPTED

To the Editor:

In addition to the articles enumerated in our letter of June 2 the following have been accepted:

Lederle Laboratories, Inc.

Immune Globulin (Human)—Lederle.

Tablets Ascorbic Acid—Lederle, 0.025 Gm.

Wm. S. Merrell Co.

Ampules Caffeine with Sodium Benzoate, 2 cc.

Sulfanilamide—Merrell

Sulfanilamide Tablets, 5 grains

Sulfanilamide Tablets, 7½ grains

Winthrop Chemical Co., Inc.

Salyrgan-Theophylline Solution (Winthrop)

Ampoule Solution Salyrgan-Theophylline, 1 cc.

Ampoule Solution Salyrgan-Theophylline, 2 cc.

PAUL NICHOLAS LEECH, *Secretary*
Council on Pharmacy and Chemistry,
American Medical Association.

Chicago, Ill.

July 13, 1939.

TRUTH ABOUT MEDICINES
NEW AND NON-OFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Sulfapyridine-Lederle—A brand of sulfapyridine—N.N.R. (*The Journal*, May 6, 1939, p. 1831). It is supplied in the form of tablets, 0.5 Gm. (7.7 grains). Lederle Laboratories, Inc., Pearl River, N. Y.

Sulfapyridine-Merck—A brand of sulfapyridine—N.N.R. (*The Journal*, May 6, 1939, p. 1831). It is supplied in the form of tablets, 0.5 Gm. (7.7 grains). Merck & Co., Inc., Rahway, N. J.

Tablets Sulfanilamide, 5 grains—The Upjohn Company—Each tablet contains sulfanilamide (*New and Nonofficial Remedies*, 1939, p. 463) 5 grains. The Upjohn Company, Kalamazoo, Mich.

Tablets Sulfanilamide, 7½ grains—The Upjohn Company—Each tablet contains sulfanilamide (*New and Nonofficial Remedies*, 1939, p. 463) 7½ grains. The Upjohn Company, Kalamazoo, Mich. (*J.A.M.A.*, June 24, 1939, p. 2603).

ARTICLES ACCEPTED

TO THE EDITOR:

In addition to the articles enumerated in our letter of October 14 the following have been accepted:

Allen Laboratories, Inc.:

Medipax Brand of Vaginal Tampon-Suppositories with Merthiolate 1:2000.

Medipax Brand of Vaginal Tampon-Suppositories with Metaphen 1:2000.

Gane's Chemical Works, Inc.:

Racphedrine.

Racphedrine Sulfate.

Wm. S. Merrell Company:

Ampul Bismuth Subsalicylate in Oil, 0.13 Gm. (2 grains), 1 cc.

Ampul Mercury Salicylate in Oil 0.065 Gm. (1 grain), 1 cc.

Ampul Mercury Salicylate in Oil 0.1 Gm. (1½ grains), 1 cc.

National Drug Co.:

Antimeningococcic Serum, Refined and Concentrated.

E. R. Squibb & Sons—Amniotin-Squibb:

Amniotin in Oil, 2,000 International Units.

Amniotin in Oil, 10,000 International Units.

Amniotin in Oil, 20,000 International Units.

Amniotin Capsules, 1,000 International Units.

Amniotin Capsules, 2,000 International Units.

Amniotin Capsules, 4,000 International Units.

Amniotin Pessaries, 1,000 International Units.

Amniotin Pessaries, 2,000 International Units.

Winthrop Chemical Co., Inc.:

Luminal-Sodium Tablets, 1 grain.

The following product has been accepted for inclusion in the List of Articles and Brands Accepted by the Council but not described in N.N.R. (*New and Non-official Remedies*, 1939, p. 528):

Smith-Dorsey Co.:

Tablets Ferrous Sulfate, 3 grains.

Chicago, Illinois PAUL NICHOLAS LEECH, *Secretary.*

Nov. 2, 1939 Council on Pharmacy and Chemistry
American Medical Association.

TRUTH ABOUT MEDICINES
NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Ampoules Adrenalin in Oil, 1 cc.—A vegetable oil (peanut oil) suspension of adrenalin base (*New and Nonofficial Remedies*, 1939, p. 229), each cubic centimeter of the suspension representing 2 mg. of adrenalin. Parke, Davis & Co., Detroit, Mich.

Ascorbic Acid—Squibb.—A brand of ascorbic acid—N.N.R. (*New and Nonofficial Remedies*, 1939, p. 449). It is marketed in the form of tablets, 25 mg. (equivalent to 500 international units of vitamin C), and tablets, 50 mg. (equivalent to 1,000 international units of vitamin C). E. R. Squibb & Sons, New York.

Capsules Sulfapyridine—Lederle, 0.25 Gm.—Each tablet contains sulfapyridine-Lederle (*The Journal*, June 24, 1939, p. 2603), 0.25 Gm. Lederle Laboratories, Inc., Pearl River, N. Y.

SCIENTIFIC COMMITTEE

Max Cutler, M.D., Chairman

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Henri Coutard, M.D.

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The Chicago Tumor Institute offers consultation service to physicians and radiation facilities to patients suffering from neoplastic diseases. Graduate instruction in radio-therapy is offered to qualified physicians.

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One 220 k.v. x-ray apparatus

One 400 k.v. x-ray apparatus

One 500 k.v. x-ray apparatus

One 10 gram radium bomb

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Number 2

CANCER SYMPOSIUM

STATE-AID CANCER CLINICS*

Methods and Records

J. L. CAMPBELL, M.D.
Atlanta

Two things are absolutely necessary for the relief and cure of cancer: 1, education, and 2, accessible and competent treatment. To these may be added a third—sufficient financial support to carry on the work.

Education is expensive. However, when the Women's Field Army of the American Society for the Control of Cancer can secure sufficient funds from their memberships, the State will be relieved of the expense of conducting educational work. The Army contemplates an extensive educational campaign in cooperation with the county medical societies.

The Cancer Commission of the Medical Association of Georgia spent twenty years in educational work before the people of the State became sufficiently "cancer conscious" to insure the passage of our Cancer Control Act, which has been declared by state and territorial health officers of the United States to be the best cancer control law ever enacted. It was recommended by them as a model for other states.

The provisions of this act are quite simple, for its sole aim is to promote the prevention and cure of cancer by:

1. Conducting educational campaigns for cancer control.

2. Establishing a standard for the organization, equipment and conduct of cancer units or departments in *general* hospitals of the State.

3. Providing and financing a plan for

the care and treatment of indigent persons suffering from cancer.

4. Acquiring such laboratories or other property as is necessary to carry out the purposes of the act.

There is another provision which must not be treated lightly for it keeps the medical profession in close contact with the administration of this act and gives the Medical Association of Georgia a large share in its conduct. I mean by this that the law requires the State Department of Health to consult with a group of doctors appointed by the President of the Medical Association of Georgia and, in addition, permits the Department to call non-medical consultants when it seems necessary for the proper administration of the act. Thus, in the future, should the State ever acquire funds sufficient to establish and maintain a central cancer hospital, it will not be necessary to get authority to consult architects and others in order to build and equip such a plant.

Before the Commissioner of Health had secured a director for the Division of Cancer Control he called a meeting of the advisory committee to outline a plan and establish a standard for the clinics or treatment centers.

The law specifies that clinics shall be located where they may be of greatest advantage to the public. A central hospital had frequently been discussed, but when all features were considered the plan was abandoned for the following reasons:

1. That a well equipped building with sufficient bed capacity would cost not less than \$400,000.

2. It would require a special, salaried personnel.

3. It would be inaccessible to those for whom the law intended to make treatment

*Read before the Medical Association of Georgia, Atlanta, April 27, 1939.

available. For instance, a poor man in Walker County could not take his wife to Macon or Augusta, neither could a poor man in some of the border counties to the south reach Atlanta; but with small treatment centers, standardized and located at accessible points and manned and equipped at no expense to the State, people of the lowest income groups could get standard treatment at a minimum cost both to themselves for transportation and to the State for hospitalization and treatment.

Those who are familiar with the treatment of cancer know that many patients with small skin or superficial lesions need remain only a few hours in the hospital, but must return at frequent intervals for observation and perhaps subsequent treatment. A woman with early cancer of the cervix may be given treatment with x-ray without hospitalization. She needs only to visit the hospital at regular intervals, finally to be admitted for perhaps three to five days while radium is being applied; but she must return for observation. Even those patients that require two or three weeks in the hospital should be followed up. All this can be done easily with the clinics located in various parts of the State; but with only one central clinic many worthy people could not be served.

It is far different with the incurable patients. These people go to bed for terminal care where they can be made comfortable and given spiritual as well as physical consolation during their last days.

It is not necessary to review the method of admission of patients to the State-aid Clinics. Except where the doctor makes a specific request the patient is sent by the Director to the nearest clinic and requested to arrive in time for a history and physical examination to be made before the assembling of the conference. It may be necessary to delay the diagnosis until a work-up can be done. In that case, the patient is admitted to the hospital for two or three days. If the lesion is benign, the State's obligation terminates as soon as a diagnosis is completed; if malignant, appropriate treatment is begun. As far as possible, a complete history and physical is made with all the necessary laboratory work. The

American College of Surgeons furnishes a record blank for every variety of lesion. It is very convenient for a brief record, but a more detailed history is desirable.

I am most familiar with the methods in use at the Atlanta Cancer Clinic of the Georgia Baptist Hospital* and will briefly outline the manner of procedure:

A history is secured by one of the internes, who usually makes a preliminary examination. In all cases except cancer of the uterus and rectum, the patient is presented to the conference and two members are asked to make an examination and describe the lesion. This is done in the presence of the conference because we wish to avoid needless manipulation but at the same time make the meetings of the greatest possible educational value. After the examination the patient is sent out. The lesion is described, x-ray plates are exhibited and other laboratory work discussed. If possible a diagnosis is made and treatment recommended. The patient is then referred to the proper department and assigned to an individual member of the staff for treatment. At subsequent meetings a report of the treatment is made. The patient is exhibited, when practicable, and any specimens preserved are shown and described by the pathologist or the operator. A follow-up system has been inaugurated which has functioned very well: The referring doctor is contacted by mail. If he does not report, a letter is written to the patient. If that brings no answer, a minister in the locality of the patient's home is requested to find out what he can of the case.

The Atlanta Cancer Clinic was organized in 1934. Our first year's work gives a fair idea of what may be expected of a clinic taking patients from all over the State. The volume of work has increased each year.

Total number of patients admitted.....	357
Non-malignant	128
Malignant	229
Lesions located as follows:	
Skin	81
Stomach, liver and intestines	12
Rectum	6
Thyroid	6
G. U. tract.....	6
Bone and cartilage.....	11
Breast	30

*Now known as the Sheffield Clinic.

Uterus	28	Malignant	1059
Larynx and lung	9		
Mouth	22		1385
Other organs and parts	18	Of 1059 malig. cases having more than 1 lesion	16
	229		1401
Methods of treatment:		Melanomas	13
Surgery	62	Skin	428
Radium	78	Digestive system	122
X-ray	21	Mouth	94
Surgery and radium	11	Stomach	8
Surgery and x-ray	23	Colon	9
X-ray and radium	9	Rectum	11
X-ray, radium, surgery	1	Breast	123
Not treated	24	Female reproduction organs	164
	229	Cervix	132
		Ovaries	8
		Uterus (body)	24
Results		Genito-urinary system	32
Deaths as per record	102	Kidneys	3
Not reported	66	Penis	3
Living (condition not stated)	61	Prostate	7
	229	Testicles	5
Number of clinics to which patients were referred			10
Number of patients referred to these clinics			1,385
Non-malignant	326		
Malignant	1,059		
Cost of treatment per patient			\$39.03
Appropriation by Legislature, 1937-38			\$50,000.00
Appropriation by Legislature, 1938-39			50,000.00
Amount available, 1937-38			35,000.00
Amount available, 1938-39			33,000.00
			63,000.00
DISBURSEMENT:			
Educational campaign, 1937-38			\$ 1,000.00
Laboratory equipment, inspections of clinics, salaries			12,866.00
Diagnosis and treatment:			
Hospital services		\$34,715.31	
Radium, x-ray		19,418.69	
Surgeons' fees		00000000	
			54,134.00
			\$68,000.00

The Division of Cancer Control of the State Department of Health began to function in November, 1937, and continued until Dec. 1, 1938, when the appropriation was exhausted and the work, perforce, stopped. Below is a brief report of the activities of this thirteen-month period:

The cancer work thus begun has proved its value. The method of doing it has proved feasible. The objective now before us is to stabilize what has already been accomplished and increase the scope of its service until every individual in Georgia may have the opportunity of receiving the care necessary to prevent or cure cancer.

STATE-AID CASES

Non-malignancies

Bladder	13
Urethra	1
Nervous system and eye	45
Brain	14
Eyes	31
Glandular system	6
Liver	3
Spleen	1
Thyroid	1
Tonsils	1
Respiratory organs	4
Larynx	1
Lungs	3
Pre-cancer and border line	86
Sarcomas	52
Bones	12
Round celled	13
Hodgkins & L-S.	15
Leukemias	5
Of extremities	7

STATE AID IN CANCER CONTROL IN GEORGIA* †

CHARLES C. HARROLD, M.D.
Macon

At the beginning I wish this group to understand that I realize thoroughly that this paper is not a scientific one and generally speaking would not be presented before a group of scientists. It is written with one purpose in view, to bring certain salient facts to your attention in the hope that you will carry the information to the members of our State Legislature. With this in view, it is my intention to mail an abstract or copy of this paper to each member of the Legislature. I firmly believe that if the members of the Legislature can be made to realize that human lives can be saved by such a small expenditure of money, that provision will be made to secure the necessary funds. This statement is not being made in any spirit of criticism of the Legislature. In their last session they faced a situation which was almost impossible. I believe, however, that study and mature consideration will convince them that first things should be first. We all believe in the protection of life and liberty, and in the pursuit of happiness. We all realize, however, that life comes first.

1. "Where ignorance is bliss, 'tis folly to be wise."
2. It is no disgrace for a poor country woman to develop cancer in Georgia; but it seems criminal that the State of Georgia should let her die now that the State has learned that she can be saved by an average expenditure of forty dollars of tax money.
3. As long as the State of Georgia did not know, it could hide behind a wall of ignorance, but the State now knows that poor men and women in the country are dying every day from cancer and it seems criminal to plead ignorance and

lack of interest. They are not dying by the grace of God, but by neglect of those of us who should help.

4. Ignorance is not disgraceful, but lack of interest is inexcusable and almost murderous.
5. More people die in Georgia every year from cancer than from automobile accidents, but in one case the cause of death is concealed and published in small type on an inside page, while in the other, it calls for headlines on the front page.
6. Practically five thousand men and women have cancer in Georgia today. Half of them will die unnecessarily from this disease unless they are given prompt and ample treatment, and given it early. Fifteen hundred die every year, whereas seven hundred fifty could be saved.
7. Poor men and women in the cities receive free treatment at the expense of the few rich counties. Poor men and women in the country have died in the past because there was no State fund available to care for them. Others will die in the future unless State funds become available again.
8. I had rather that my tax funds go to saving human lives and paying for the education of the children of Georgia than to build roads or anything from stone or concrete.

On July 1, 1936, I made a short talk at the Institute of Public Affairs at the University of Georgia on the question of State-aid in cancer control in Georgia. At that time I called attention to the utter futility of telling a poor woman that she has a cancer which will kill her within two years, and then providing absolutely no means for her to secure treatment. I also called attention to the fact that I was thoroughly convinced that in Central Georgia at least fifty per cent of men and women with cancer were unable to pay for the treatment of the same. I also called attention to the fact that only ten counties in Georgia provided any type of treatment for cancer, and I also stated that at that time I believed that only one county in the State was providing full ample and sufficient care for its poor people afflicted with cancer.

*Read before the Medical Association of Georgia, Atlanta, April 27, 1939.

†Read before the Medical Association of Georgia, Atlanta, The Legislature convened and made an appropriation of fifty thousand dollars for cancer control for each year, the appropriation being made for two years. Work was resumed last July throughout the State, and is progressing satisfactorily. Funds, however, are running short again and will hardly last until the next fiscal year is over. Fortunately, Dr. Abercrombie was able to secure fourteen thousand dollars of Federal money to supplement the State funds. New funds will become available on July 1.

At that time I was referring to Fulton County, and a little later on I had to make a public apology that I had not included Richmond County. Even in Richmond, however, much of the care which was provided at that time and is provided now, was through donations of service and radium by Richmond County physicians and surgeons. In Atlanta the attention which was provided prior to the winter of 1937 was when given to the poor as a result of the combination of tax funds and the bequests of a Jewish philanthropist.

In Bibb County, and in certain other counties in Georgia, care was being provided for the poor through the use of tax funds and the donation of services and radium by physicians and surgeons. In all counties in Georgia, however, with the one exception of Fulton and the possible exception of Richmond, bed space was limited.

We all are familiar with the fact that two years ago the State Legislature made an appropriation of fifty thousand dollars for each year for two years to help in the control of cancer. The State was extremely fortunate in securing the services of Dr. J. W. Schereschewsky to plan and organize this work. The plan which he and Dr. Abercrombie evolved is now recognized as outstanding, if not the best in the United States. It provides for the establishing of at least ten treatment centers at strategic points in the State so that no patient will have to drive more than fifty miles to receive treatment. Such treatment was given for a year and a half at State expense, and the work was progressing wonderfully well when funds became exhausted on Dec. 1, 1938.

All of us are familiar with the fact that our recent Legislature adjourned without providing sufficient funds for continuing many functions of the State. It seems as if cancer work with the poor is going to suffer along with other public functions. I am in thorough sympathy with the members of the State Legislature in their desire to economize and absolutely cut out all needless expenditure of public funds. I am also thoroughly in sympathy with the citizens of Georgia who pay taxes and who

resent unnecessary expenditures of tax funds.

I am, however, thoroughly convinced that if the members of the State Legislature and the citizens of Georgia at large had the slightest conception of the unnecessary suffering and unnecessary deaths which come as a result of the lack of treatment of cancer, that proper funds would be provided to continue this work. I am thoroughly familiar with the situation in Central Georgia. I have been familiar with it for many years. There are literally hundreds of women suffering from cancer of the womb and cancer of the breast who cannot pay for treatment. They hide their troubles until the conditions are entirely too advanced to be cured before they seek advice in clinics where proper treatment can be given. The condition in Georgia, certainly in Central Georgia, was just beginning to appear more hopeful when State funds became exhausted. Scores of patients who were receiving treatment no longer appear at the clinics because they know that no money is available for x-ray therapy and for hospitalization. The surgeons continue to donate their services; the doctors who own radium continue to donate the use of the radium. The fact remains, however, that almost immediately in Central Georgia, with the exception of Bibb County, charity work dropped off seventy-five per cent.

The sole object of this paper is to call the attention of the doctors in Georgia to the situation and to urge their help and the help of the public in restoring the necessary funds for the operation of these clinics. In this connection I feel that the doctors should realize that the fees paid to physicians and surgeons are absurdly small. The x-ray men receive barely enough money in fees to pay the actual expenses of treatments. Clinicians and surgeons are paid nothing. Physicians supplying radium are paid very small fees; in the cases like cancer of the womb, where six thousand units of radium are given, the physicians receive forty-five dollars, whereas radium in this amount would cost the State more than one hundred dollars for each patient.

In conclusion, physicians doing this work

are doing much more work with cancer than before the clinics were established. Generally speaking, and certainly in my own experience, I am doing more work with less pay. I feel, however, that I speak advisedly when I state that every physician who was doing this work became thoroughly convinced of its economic value to the State and to the poor who were suffering, and everyone of us wishes to see the work reestablished. It is extremely unfortunate that when the South is pronounced the Nation's economic problem No. 1, and at the same time Georgia is commended for being in the lead in cancer control, that suddenly the work has to stop. I urge every doctor in the State to help in securing proper appropriations for this work, and I respectfully urge that every member of the State Legislature seriously and carefully study the situation.

TREATMENT OF SKIN CANCER IN AMBULATORY PATIENTS*

Report and Review of 200 Cases

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Atlanta

During 1934 there were more than 134,000 deaths reported from cancer and other malignant tumors in the registration area of the United States. Of this figure, 5,009 were due to cancer of the mouth and 3,315 were due to cancer of the skin. Therefore, 6 per cent of cancer deaths reported are from the skin and oral cavity.

Unfortunately, cancer of the skin has not received the consideration it deserves. So long as this attitude is maintained, we may expect to see a large number of deaths annually from accessible cancer, which could be prevented.

Experience has taught us that the incidence of cancer in a family cannot be reliably ascertained from the patient. Frequently it is unwise to ask a patient if cancer has occurred in his family.

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Fig. 1
Verrucous leukoplakia. High percentage become malignant.

Accurate data cannot be presented, but we have been impressed by the number of patients coming to us for treatment of skin cancer who voluntarily stated that one or more immediate blood relations had had cancer of the skin or some other body structure. We have frequently treated a patient for cancer of the skin or lip who later sent or accompanied a close blood relation to our office for cancer of the skin or other part of the body. We have in mind a patient treated for cancer of the skin whose record shows that his father and father's brother had multiple epitheliomas. His mother had cancer of the tongue and his sister had skin cancer. Family incidence as just enumerated convinces us of the importance of the hereditary factor in the etiology of cancer. We are disciples of Maude Slye and have great respect for her illustrious work demonstrating the certainty of the hereditary factor in the cause of mouse cancer.

The common forerunner of cancer of the skin and of the oral mucous membrane is a hyperkeratosis. When the skin is involved the keratosis varies from a freckle-like pigmentation to an elevated scaly spot. These spots vary in size from a few millimeters to one or more centimeters.

The hyperkeratosis of the mucous membrane is known as leukoplakia. It appears as white spots which may be smooth and non-elevated or wart-like. Only a tiny bit of mucous membrane may be involved or the entire oral cavity, including the tongue, may be affected. It is the warty or verrucous leukoplakias that are dangerous and should receive immediate treatment. Do not wait until they are visibly malignant. Leukoplakia in the mouth of non-users of tobacco or snuff is rare. We have never seen cancer of the mouth in a woman who was not a user of snuff. As years go by, an



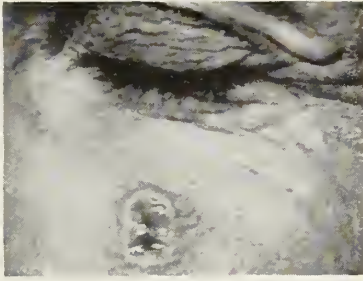


Fig. 2
Rodent ulcer.

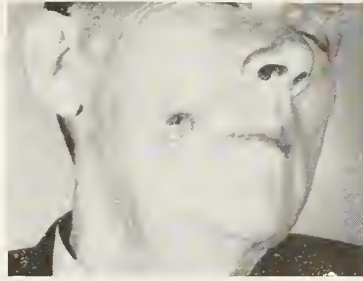


Fig. 3
Carcinoma. Metastasis to
regional node.



Fig. 4
Squamous carcinoma following repeated
radiation for psoriasis.



Fig. 5
Early Paget's disease of the nipple.

increase in lip and mouth cancer in women is to be expected because of the increasing popularity of the use of tobacco.

Moles do not frequently become malignant. In the light of present knowledge, however, it is advisable to remove all moles which are subjected to repeated irritation. The removal of a mole does not cause cancer. A cancerous mole is frequently partially or completely removed, but the already existent metastasis is incorrectly blamed on the coincidental removal of the affected mole.

It is an established fact that scars from burns are frequent sites of cancer.

Chronic skin diseases are not commonly followed by cancer. Tuberculosis, lupus erythematosus, which has been irradiated; and kraurosis (chronic atrophic eczema of the vulva) furnish the infrequent examples.

We have never known a physician who has seen cancer develop within a wart. Yet a verruca, or wart, is still listed by authors as a pre-cancerous lesion. Neither have we ever seen or known malignancy to develop in a hairy mole.

When an epithelioma proves resistant to radiation, suspect sweat or sebaceous gland origin.

Skin cancers are usually divided into three types, namely: basal-celled, squamous-celled and mixed-celled.

The basal-celled type is by far the most common. It may appear as a small pearly lesion which looks harmless. Because of the location and duration of the growth, irritation and infection, the clinical manifestations vary widely. Metastasis rarely occurs. This type is malignant locally.

The squamous-celled type is more serious than the basal-celled. It occurs most often at the muco-cutaneous borders, especially on the lip or on the anus. Metastasis may occur early or late. This type grows rapidly compared with the basal-celled type. It attains a size, in a few months to one year, which would require several years for a basal-celled type to accomplish. It is malignant locally, and generally.

The mixed-celled type is so-called because it has macroscopic and microscopic features of both basal and squamous-celled types.

A physician familiar with skin diseases can correctly diagnose 90 to 95 per cent of skin cancers without the aid of the microscope. Biopsy study is of greater value to those physicians who have not studied diseases of the skin.

A study of 200 unselected private cases of skin cancer in white people furnishes a group of statistics which are in line with those of other writers. Eighty-five (42.5 per cent) of the patients were females; 115 (57 per cent) were males.

The average age of the entire group was 57 years.



Fig. 6
Epithelioma with bone involvement.
Cure doubtful.

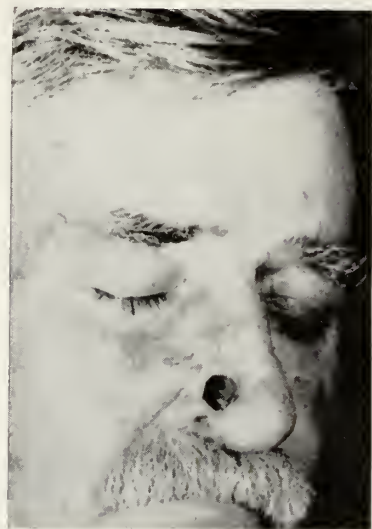


Fig. 7
Perforation due to cancer paste. Plastic
operation failed.

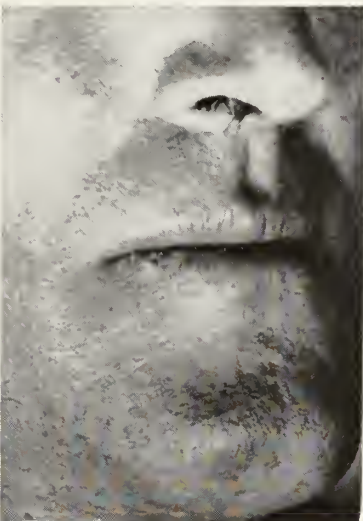


Fig. 8A
Squamous cancer. Lower lip.

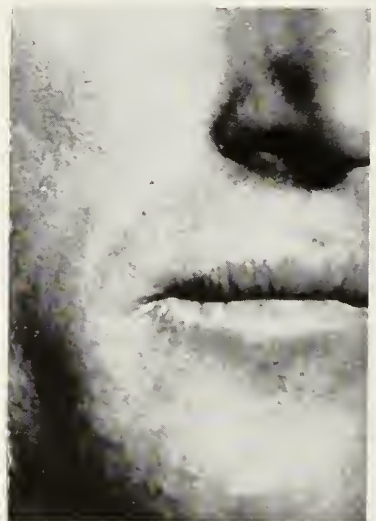


Fig. 8B
Apparent cure from radium treatment.

According to ten-year period age-grouping it was noted that 3 (1.5 per cent) cases were listed in the 20-29 year period, 15 (71.5 per cent) between 30-39, 43 (21.5 per cent) between 40-49, 50 (25 per cent) between 50-59, 48 (24 per cent) between 60-69, 31 (15.5 per cent) between 70-79, 8 (4 per cent) between 80-89, and 2 (1 per cent) between 90-99.

A comparison of incidence was computed between those engaged in outdoor occupation and those working indoors. We found that 142 (71 per cent) were doing inside work, while 58 (29 per cent) were occupied outside.

At first one would think that the higher percentage (71 per cent) of inside workers in our series refutes the teaching that exposure is a contributing factor in the development of skin cancer. Before this apparent refutation could be accepted, a study of a clinic group, as well as a study of untreated urban and rural patients, would be necessary. This would not be an easy task.

The varied locations of the new-growths were recorded; on the nose, 72 (24 per cent); on both cheeks,

53 (21 per cent); on the ear, 19 (7 per cent); on the eyelids, 17 (6 per cent); on the lower lip, 15 (5 per cent); upper lip, 4 (2 per cent); on the dorsum of the hand, 13 (4 per cent). Skin cancer occurs, in this series of cases, most frequently on the nose and least on the upper lip. Of those lesions on the lower lip all appeared in men, while 3 of the 4 growths on the upper lip appeared in women.

There were 19 (9 per cent) patients with multiple epitheliomas, and a total of 233 growths were treated on the 200 patients studied.

Radium, x-ray and surgery are the three recognized methods of treatment for skin or lip cancer. In selected cases, excellent results may follow either treatment. But in the vast majority of cases, radiation is the treatment indicated. In certain cases with metastases and bone or cartilage involvement, the utilization of one or all agents



Fig. 9A
Multiple keratoses with epithelioma.



Fig. 9B
Result following x-ray therapy.

renders an unfavorable statistical record. Fortunately, metastases are comparatively rare, but when proved to be present, the prognosis is poor. Thirteen years ago we advocated radiation over the regional nodes when dealing with lip cancer. Now we believe that this is unnecessary when treating early lip cancer. More often than not, freely movable, palpable nodes are inflammatory instead of metastatic malignancy.

Ten years ago we stated that routine removal of regional lymph nodes was unnecessary. Since then we have not had occasion to change our opinion.

Conclusions

There are still too many deaths from cancer of the skin and oral cavity.

The importance of heredity as an etiologic factor has strongly impressed us.

Kraurosis is chronic atrophic eczema of the vulva and furnishes a suitable soil for the development of skin cancer.

Hairy moles seldom, if ever, become malignant.

Biopsy study should be used in the diagnosis of doubtful cases of skin cancer, but is unnecessary and often inadvisable in the majority of patients.

A physician familiar with dermatologic lesions should be able to diagnose correctly 90 to 95 per cent of skin cancers.

Between 95 per cent and 98 per cent of cancer of the skin and lip can be cured if treatment is begun early.

Radium, x-ray, and surgery are the only recognized treatments at this time.

In certain cases, radium is superior to x-ray.

5. MacKee, Geo. M.: X-rays and Radium in the Treatment of Diseases of the Skin, 3rd Edition.
6. Andrews, Geo.: Diseases of the Skin, 2nd Edition.
7. Ormsby, Oliver S.: Diseases of the Skin, 4th Edition.
8. Hailey, Howard: Skin Cancer—Diagnosis and Treatment, J. M. A. Ga. 16: 11, Nov., 1927.
9. Hailey, Howard: Radium Treatment of Early Epithelioma of Lip, Southern Medical Journal, 23: 1121, 1930.
10. Hailey, Howard: Radium Treatment of Epithelioma of the Eyelid, Southern Medical Journal, 27: 681, 1934. Suite 107, Doctors Bldg., Atlanta.

THE CHOICE OF TREATMENT OF CANCER OF THE BREAST*

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As our knowledge of the pathology of breast cancer increases and as we see it not as one entity but as a group, the different members of which behave in different manners and have different origins, we are forced to the conclusion that one rigid routine method of treating all patients cannot possibly give the best results. It becomes necessary for us to carefully analyze and individualize each case and attempt to use the therapeutic methods at our command to the best advantage. The proper decision in these cases is of the greatest importance if we hope to increase the number of patients cured and those whose years of life are extended.

The statistical data on this subject are frequently of little value, as in many instances the age of the patient and the type of the malignancy are not given. Even if all factors concerning the disease itself could be included there would still be the following variable factors: 1. The individual abilities of the surgeon and radiologist, and 2, what is meant by adequate radiation or radical mastectomy? As none of the above has yet been reduced to standards we are left to wonder just what is

BIBLIOGRAPHY

1. Cancer in New York City, Weekly Bulletin, Dept. Health, N. Y. City, 20: 317-319, Nov. 1, 1931.
2. J. A. M. A. 101:129, 1933.
3. Dublin, Louis: Statistics from Metropolitan Life Insurance Co.
4. MacKee, Geo. M., Cipollaro, A. C.: Cutaneous Cancer and Precancer.

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meant by these terms. We can, however, by considering all statistics carefully, and by painstakingly analyzing experimental work, arrive at certain conclusions which will at least give us a more reasonable approach to the proper therapy of these conditions than we have had in past years. Eggers states, "There are many among the public as well as among physicians, who have lost faith in surgery without acquiring confidence in radiotherapy. This lack of confidence in either agent is today responsible for much of the chaotic condition prevailing concerning the treatment of neoplastic disease." I believe this condition can be relieved by a proper coordination of radiotherapy and surgery.

The methods of treatment which we have available are surgery, roentgenotherapy, radium therapy and general measures. These general measures should not be neglected and although not important directly in the cure of cancer can make a patient much happier and healthier while undergoing arduous treatment. Liver extract, calcium and amytal during radiation therapy, have proved extremely useful. These should be used in all cases where indicated. Calcium therapy as claimed by Behan may even have a beneficial effect by direct action on the cancer cell metabolism.

Due to its accessible lymphatic drainage areas, cancer of the breast is uniquely adapted to radical surgery, and techniques by which tremendous amounts of tissue may be removed with low mortality and morbidity have been worked out and described years ago. The surgical attack by the Halsted operation or one of its modifications should be the strong point in our attack. Unfortunately, as will be discussed later, it is frequently the weak one.

Radium therapy, while valuable as an adjunct, has not been used as a major method to any great extent. Good surgery seems at present the better method. Keynes reports a successful series of cases treated in this manner. He states, "This is purely a local treatment as is surgery."

Roentgenotherapy, the second ranking method of treatment, is the storm center of cancer therapy. Inordinately praised by

some blindly and unreasonably condemned by others, it is ambitious and it seeks not only the local destruction of a malignant growth but also to search out and destroy or render less harmful more distant areas of diseased tissue which cannot be removed surgically. It also seeks to aid in the diagnosis of the grade of malignancy. By carefully noting the rate of regression over certain periods of time this can be done with increasing accuracy. It is best described by the following classical quotation from Henri Coutard: "Rich only in hope, possessing only incomplete information, incapable of offering precise technics, adapted to diverse types of cancer, radiotherapy has, however, obtained definite cures in cases incurable by surgery."

Pfahler and Parry, White and others have presented excellent proof that preoperative and postoperative therapy increase five-year cures and also increase the average life of those who do not receive more permanent benefits. The advantage of preoperative therapy in patients with no palpable glands is not apparent from statistics. This, I believe, is due to the fact that usually the patients, where a maximum benefit has been obtained, are reported postoperatively by the pathologist as benign cases. Biopsy on these patients is not considered wise. However, occasionally, due to early ulceration or as in one case of mine where the referring physician had mistaken a cancer for an abscess and incised the breast; tissue may be obtained before initiation of therapy. In this case the initial report was malignant. Preoperative radiation was given and postoperatively the tissue was found to show no malignant elements. Quimby and Adair reported fourteen out of one hundred and seventeen cases with positive biopsies which after preoperative x-ray had no cancer found postoperatively. When this type of case is considered there is an appreciable advantage to preoperative therapy, even in the early stage with no palpable gland involvement. We should not forget that palpable glands may be present without cancer, and that microscopic metastatic cancer may be present without palpable glands.

As certain breast cancers are produced by estrogenic substances, radiation castration is indicated in some cases. We feel this is particularly true when marked enlargement of the breast occurs at the menstrual periods. This remains to be proved clinically. Age is a factor in the occurrence of different grades of malignancy and radiosensitivity, therefore it must be considered in outlining treatment. The younger the patient the more malignant and the more radiosensitive the tumor is inclined to be. Operative treatment in the hands of competent surgeons has given excellent results in early cases as shown in statistics by Eggers and others. Eggers, Trout and others fear that radiation will cause the surgeon to be careless. This, unfortunately, is at times true and certain statistics showing no advantage from preoperative therapy have been based on such faulty surgery. This can be seen by studying photographs before and after therapy and photographs following the operation. The operation, if performed for a cure, should never be narrowed by the results of therapy. "A small cancer—an extensive operation"—should constantly be in the minds of all surgeons operating for the cure of cancer. This defect in the combined attack can be easily overcome by concerted action on the part of radiologist and surgeon. Before commencing therapy decide upon the extent of operative removal of tissue. Having decided do not allow improvement to cause a change of tactics. In my clinic the line of skin incision, at least three inches outside of any gross malignancy, is marked on the patient's chest with mercurochrome; these marks are maintained and the tissue within these lines removed without regard to any improvement which may have taken place following radiation. In other clinics I have seen photographic records of patients which showed that operative incisions had passed through the site of metastases in the skin which had disappeared following x-ray therapy. If these areas have been completely cured no operation other than a simple mastectomy was indicated. The complete disappearance of all gross evidence of tumor following x-ray does not



RESULTS FROM ROENTGENOTHERAPY
NO INDICATION TO LIMIT SURGERY.

constitute a cure. Many of these conditions will recur as sufficient radiation to destroy the mother cells and older tumor cells is usually impossible to deliver without the production of caustic effects on the normal surrounding tissue. Also, in my opinion, the claim that inoperable cases are rendered operable is based on faulty considerations. If these cases are inoperable when seen they remain inoperable as far as a permanent cure is concerned. Roentgenotherapy is the chief reliance and surgery should be used only as an adjunct to remove gross masses and skin which may be seriously damaged by radiation. This damage, when kept within proper anatomic limits, should cause no criticism of the radiologist. Cancer is a serious disease and damage of reasonable skin areas is as allowable for the radiologist as its removal is allowable for the surgeon. In these patients months and years may pass before operation is considered advisable, and it may never be indicated.

The choice of treatment in carcinoma of the breast, with no palpable glandular involvement, must be considered in age groups. In the premenopause group, particularly those under thirty-five or probably forty years of age, preoperative x-ray

therapy should be instituted. The plan based on the principle of Rosh and Friedman as stated below appears sound. If there is a regression in size of the tumor of fifty per cent in ten to sixteen days, radiation should be continued to the point of skin tolerance and sufficient time, five to six weeks, allowed for maximum improvement before surgery is instituted. If fifty per cent regression does not take place, x-ray should be abandoned and surgery performed about the twenty-first day, certainly before the twenty-fifth day. Selected cases should have radiation of the ovaries. If maximum preoperative radiation has been given, postoperative treatment is probably of little, if any value. When given it should be instituted quickly before operative fibrosis begins. Wound healing will not be affected.

In the older group, while preoperative therapy is of value, there is apparently little benefit in giving large doses. Nine hundred R's effective may be given and operation performed on the twentieth day followed by immediate (within two weeks) postoperative radiation. If the breast is handled gently at time of operation and guarded from trauma during induction of anesthesia, preoperative therapy may be omitted in many of this group.

The patients with palpable glands, whether near, middle or axillary, should have a complete preoperative radiation if reasonable regression of the metastases is noted. If this is not noted radiation should be abandoned and surgery instituted about the twentieth day. The judicious distribution of radium needles at time of operation may be advisable in cases where higher involvement is found than was expected preoperatively.

Patients with erythema, recurrences and metastases are generally a radiation problem. The removal of painful inflammatory or ulcerated breast may be indicated to give the patient relief from pain or from mental anguish caused by a foul wound.

Recurrences of gelatinous mammary cancers are best treated by surgery, as are certain other recurrences of tumors known

by previous study and trial to be highly radioresistant.

The patient considered inoperable when seen is the radiologist's problem. It remains inoperable and no amount of improvement should change this judgment. Simple mastectomy, removal of gross scars and damaged skin, constitutes the maximum surgical intervention. Many of these patients survive for more than five years, some live out their life expectancy.

Surgery, when done for a cure, should be as radical as possible and no thought should be given to wound closure. Skin grafts take beautifully on the thorax, and neither preoperative nor postoperative therapy seem to interfere with their growth or the healing of the incisional wound.

Insufficient radiation as well as insufficient surgery causes dissemination. Inadequate radiation plus inadequate surgery are not as effective as either well done.

In conclusion I wish to recapitulate:

1. A combination of good radical surgery plus judicious individualized roentgenotherapy produces the greatest number of cures in cancer of the breast.

2. Roentgenotherapy is the chief hope in inoperable cancer.

3. The latitude of tissue removal should not be lessened by improvement from preoperative radiation.

REFERENCES

1. Pfahler, G. E., and Parry, L. D.: Results of Roentgenotherapy in Carcinoma of the Breast, *J. A. M. A.* 94: 101 (Jan. 11), 1930.
2. White, W. C.: Irradiation as an Aid to Surgical Treatment of Cancer of the Breast, *J. A. M. A.* 110: 261 (Jan. 22), 1938. Postoperative Roentgenotherapy in Cancer of the Breast, *Ann. Surg.* 108: 15 (July), 1938.
3. McFee, W. F.: The Treatment of Advanced Cancer of the Breast, *Radiology* 16: 687 (May), 1931.
4. Geschechter, C. F.: Gelatinous Mammary Cancer, *Ann. Surg.* 108: 321 (Sept.), 1938.
5. Coutard, Henri: The Results and Methods of Treatment of Cancer by Radiation, *Ann. Surg.* 106: 584 (Oct.), 1937.
6. Keynes, G.: The Place of Radium in the Treatment of Cancer of the Breast, *Ann. Surg.* 106: 619 (Oct.), 1937.
7. Eggers, C.: Cancer Surgery, *Ann. Surg.* 106: 668 (Oct.), 1937.
8. Trout, H. H.: Carcinoma of Breast, presented before Southeastern Surg. Congress, Atlanta, 1939.
9. Adair, F. E., and Quimby, E. H.: *American Journal of Roentgenol.* 35: 359 (March), 1936.
10. Friedman, M., and Rosh, R.: Presented at the Fifth International Congress of Radiology, Chicago, Sept., 1937.
11. Adair, F. E.: Cancer, Philadelphia, J. B. Lippincott Co., 1931.
12. Behan, R. J.: Cancer, St. Louis, The C. V. Mosby Co., 1938.
13. Kaplan, Ira I.: Radiation Therapy, New York, Oxford University Press, 1937.

CANCER OF THE CERVIX*

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We regret that we have nothing new or startling to offer about the subject which we propose to discuss. If, however, we succeed in producing a reaction which will cause you to become more deeply interested in the cancer problem, which stands second only in the causes of death in the United States, claiming as it does 150,000 lives annually, we will feel that our time has been well spent in the preparation of this paper.

We have selected a phase of the cancer problem, namely, cancer of the cervix, because of its heavy contribution to this fearful death rate and because, next to cancer of the skin, it is most amenable to prevention and cure.

An historic background to a subject furnishes a buildup that enhances the reading qualities of any article, but, since we are not striving for any literary honors, we prefer to confine our remarks on the historic aspects of cervical cancer to the fact that such lesions have been recognized since the early dawn of medical history. So far as modern medicine is concerned, we can divide the history of cancer into four periods.

The first period begins with Wertheim, who in 1900 advocated a most radical surgical procedure, which, if the patient survived the operation, gave a fairly good percentage of cures, provided the operation was done before the disease had advanced beyond the second stage (League of Nations' grouping). Following this, surgery of a much less radical nature was advocated. Abdominal and vaginal hysterectomies, cervical amputations, and cauterizations with the actual cautery were done, but none gave the results desired.

The second period was initiated when irradiation began to shed some light upon the problem. Irradiation was hailed as a

deliverer by some physicians, and certainly the laity believed that radium had come to put an end to all cancers, but there was many a surgical "doubting Thomas" to deal with. Next there arose a period of great controversy which was finally won by the irradiationist who brought cold facts and statistics to prove that the end results of irradiation were at least as good as those of surgery without the mortality and morbidity rates incident to surgery; but even so, this left a great deal to be desired, as the spectacular immediate improvement did not carry forward and five-year cures were not remarkably increased. This controversial era we must designate as the third period, while the fourth period began about 1933, when deep therapy as an adjunct to radium began to show results which gave more encouragement. The technic of their application seemed to be the chief problem to solve, some clinics advocating massive doses of radium alone, others applying radium in broken doses over a moderately long period, to be followed by deep therapy, while still others thought small radium dosage over a very long period, with deep therapy applied in the same manner, gave better results.

We must admit that there has been a most encouraging advance made in the treatment of moderately advanced cases, and the palliation which has been given to the far advanced or frozen pelvis type is remarkable, but the incidence of these moderately advanced and far advanced cases is not being reduced and we agree with Dr. Frederick Holden, who most aptly says: "Since cancer of the cervix still remains such a formidable foe we must marshal our most powerful forces to continue fighting it." He advocates a threefold program. First, further research in the etiology, the diagnosis and the treatment. Second, prevention and cure of the pathologic conditions which predispose to cancer. Third, education of the profession and laity to make full use of the knowledge and facilities already available to them.

The reports from the various cancer clinics are remarkable for two things in

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common: the scarcity of early cases of carcinoma of the cervix, and the fact that almost all the cases of early cancer reported are patients seen after the age of 55.

The basis of all the educational work being done for eradication of cancer is early recognition and early treatment, and we believe the laity has been impressed to the extent that they are presenting themselves to their family doctor for earlier diagnosis and treatment, thus putting the burden of responsibility on the medical profession. The question naturally arises: are we as physicians living up to that responsibility? We are afraid we would stand convicted before an impartial board of competent investigators; it is a challenge we must answer.

In one clinic where the Smittz classification was used, a series of 955 cases were reported, with the following classification:

Group I	33 cases, or 3.9 per cent
Group II	61 cases, or 6.3 per cent
Group III	274 cases, or 28.6 per cent
Group IV	456 cases, or 47.7 per cent

An added group V, consisting of recurrent cases, made up the remaining ones.

If we leave out of consideration group IV cases and many of the group III cases, we are able to make a much better showing in survival rate, but why deceive ourselves in such manner? Nothing but frankness will accomplish results. Since we are seeing so many patients who belong to groups II, III, and IV, and since we know that these cases have at one time been in group I, is it not an indictment against the profession that group I composes such a small percentage of our cases?

Now, in all candidness, just what is happening? We are afraid the following is too often true! Mrs. Blank calls on her family physician and tells him she is having extra menstrual bleeding and some vaginal discharge. She catalogs a train of all types of symptoms. A hasty vaginal examination is done, by a poor light. An eroded area is touched or painted over with nitrate of silver or some other chemical, a douche is prescribed and an ampoule of some widely distributed glandular substance shot into the muscle of her arm,

and instructions given to report at set dates for repetition of injections and the battle of the ampoules is on, and probably the chance of eradicating a potential cancer or treating a very early carcinoma of the cervix slips beyond recall.

A great many of the advanced cases we see give a history of having been under such treatment from two to eighteen months. We are sure that the future historian will have to include an ampoule era in his discussion of cervical cancer. We are also afraid too many doctors count their day's successes or failures by the number of empty ampoules in the wastebasket at the end of the day.

The diagnosis of "change of life" made by the laity and the physician, is one reason we are seeing many late cancers. We at times feel like exclaiming, Oh, menopause! What crimes of omission are committed in thy name! Emil Novak believes and states that there is apparently something which takes place at the menopause to cause the rapid development of a latent carcinoma of the cervix into an active one, and he and others believe that there is a very prolonged period of metamorphosis of the cells taking place, which is not readily recognized by the pathologist and, if cancer of the cervix is to be conquered, it is during this period of transition. Just how this will be accomplished will receive our attention a little later in this paper.

As to the etiology of cervical cancer, nothing definite can be stated but many conclusions can be logically reached. Since more than 90 per cent of cervical cancers occur in parous women, we must conclude that childbirth trauma is an etiologic factor and since we are able to obtain a history of previous vaginal discharge and extra menstrual bleeding in practically all cases, we can likewise conclude that some form of cervical irritation has existed over a considerable period of time. Whether that condition has been cervicitis, endocervicitis, erosion, eversion or ulceration, we cannot determine or does it matter, except from a purely academic point of view.

In reviewing the cases of cervical disease seen in the John D. Archbold Hospital

during the years 1932-37 we have recorded a series of cases, which might be considered potentially malignant or pre-cancerous. These cases, 166 in number, have been reviewed with the idea of determining whether any of them had later developed cancer of the cervix. All of the patients in this group had definite cervical pathologic changes which had caused symptoms that might indicate cancer of the cervix. Seventy-six of the patients in this group had biopsies, none of which showed evidence of cancer. All were treated surgically, either by cauterization, conization by endotherm, or by cervical repair. Not a single patient in this group has ever returned to this hospital suffering from carcinoma of the cervix. This is significant, in that it is inferential evidence of prevention of carcinoma of the cervix by relatively minor early surgical procedures. It is our belief that an appreciable per cent of these would have developed into cancer had they had any less radical treatment, and this point is the one we hope to impress upon the laity and the profession. If we hope to conquer cervical cancer we must do it at this particular stage, and we strongly urge that a biopsy be obtained in every case, so we will be able to say we know this case was early cancer or potentially cancerous and was cured. If we continue to temporize with these potentially malignant cervixes until we are able to make a microscopic diagnosis, we will continue to record a low percentage of five-year cures, regardless of our method of treatment.

The general type of cases now being seen in this State is exemplified by a record of the anatomic stages found in 100 consecutive cases of proved carcinoma of the cervix seen at the John D. Archbold Memorial Hospital which shows that 15 cases were classified as stage I; 22 cases as stage II; 35 cases as stage III; and 26 cases as stage IV.

The League of Nations' classification was used in grouping these cases. This, of course, is a purely clinical procedure, and the results are subject to considerable degrees of error, as it is impossible at all

times to determine the exact degree of involvement of pelvic tissues and organs by clinical examination. The chances are very great that many cases are more advanced than their group would show, as incipient or microscopic spread of the disease cannot be palpated and is therefore overlooked.

In conclusion we cannot too strongly urge first, biopsy of all pathologic cervixes; second, early cervical repairs following childbirth; third, conization and fulguration of all eroded, everted, and ulcerated cervixes; and fourth, adequate repair of all chronic cervical lacerations.

It was said of Leonardo de Vinci, in the 15th century, that "he knew his own nature to this extent, that he recognized the search for knowledge as his overmastering passion, a passion akin to the north wind and the volcano, which overcomes and devours all that stands in their way," and it is in this spirit that modern scientists will conquer cancer.

BIBLIOGRAPHY

1. Auer, E. S.: Carcinoma of the Cervix Uteri; a Statistical Survey of 21 Years of Treatment. J. A. M. A. 1932, XCIII, 2259.
2. Bloodgood, J. C.: Further Note on the Investigation as to How to Protect Mothers from Cancer of the Cervix. Am. J. Cancer, 1931, XV, 1577, July.
3. Crossen, H. S.: Prevention of Cancer of the Cervix Uteri. Am. J. Obst. & Gynec., 1933, XXVI, 686.
4. Henriksen, E.: Precancerous and Carcinoid Lesions of the Cervix Uteri; with Comments on the Schüller Test. Surg. Gynec. & Obst., 1935, LX, 635, March.
5. Novak, E.: The Early Recognition and Treatment of Cervical Cancer. Surg. Gynec. & Obst., 1937, LXIV, 1977, June.
6. Schreiner, B. F., and Kress, L. C.: The Results of Treatment of Carcinoma of the Cervix; Based on a Study of 417 Cases, Jan., 1919, to June, 1925. Am. J. Roentgenol., 1931, XXV, 359.

ELECTROCARDIOGRAM IS IMPORTANT AID IN ACUTE PERICARDITIS DIAGNOSIS

The electrocardiogram is important in the diagnosis of acute pericarditis (inflammation of the walls of the sac in which the heart is enclosed), Joseph B. Vander Veer, M.D., and Robert F. Norris, M.D., Philadelphia, declare in *The Journal of the American Medical Association* for Oct. 14.

The electrocardiogram is a graphic tracing of the electric current by the contraction of the heart muscle. In emphasizing its value in the diagnosis of pericarditis the authors point out that the latter usually is a complication of a more easily recognized disease and because of this it is frequently overlooked.

"Like any laboratory aid," the authors say, "the electrocardiogram is of greatest value when it gives positive evidence. Negative evidence must always be considered with caution. The electrocardiogram in acute pericarditis may return almost to normal within a few days, even though the patient has not improved. We wish to emphasize, however, that a definite electrocardiographic pattern typical of pericarditis has been described and that the importance of the electrocardiogram in the diagnosis of this disease has been established."

MALIGNANCIES RELATED TO VENEREAL DISEASE*†

Development of Carcinoma Secondary to Venereal Lymphogranuloma and Granuloma, and Carcinoma

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Augusta

Cancer control depends upon two factors: The recognition and treatment of predisposing lesions in order to prevent the development of cancer; and the early diagnosis of the new-growth followed by adequate treatment. The observation of a series of patients in whom carcinoma developed secondarily to ulcerative lesions of venereal diseases leads us to suspect an etiologic relationship. It is evident from the case reports that these patients suffered from the primary disease for a prolonged period either as a result of neglect on the part of the patient, or as a result of faulty diagnosis and treatment on the part of the physician.

Venereal diseases, especially those accompanied by ulcerations of the pudenda, are often difficult to diagnose because they occur so commonly as mixed infections. Then, too, the various tests, such as the Frei test, chancroid bacillary test, and Wassermann reaction, when positive, do not always indicate the cause of the existing lesion. We have previously emphasized the role of the biopsy for confirmation or diagnosis because the correct diagnosis determines the proper therapy¹. The knowledge that carcinomas develop at the site of such ulcerations is a further indication for biopsy, especially in atypical and chronic cases.

It is generally recognized that carcinoma of the tongue may arise at the site of a syphilitic leukoplakia, it being assumed that the chronic inflammation serves as a background for this development². Gonorrheal infections, on the other hand, seem to have

no relationship to malignancy since the incidence of carcinoma of the cervix in nulliparas who have a gonorrheal cervicitis is no greater than in those without the infection³. These appear to be well established facts and will not concern us further in this paper.

That carcinogenesis might be stimulated by the so-called newer venereal diseases namely lymphogranuloma venereum, granuloma venereum and chancroid has been largely ignored and there is little in medical literature to suggest such an association. This may be due to the fact that our knowledge of these diseases is rather recent and as yet somewhat fragmentary. Furthermore the symptoms and signs of malignancy of the rectum and venereal lymphogranuloma have many points of similarity so that the venereal disease may be completely overlooked while the entire attention is directed to the malignancy, or vice versa. Bernstein⁴ in 1935 observed a woman who had a venereal lymphogranulomatous stricture of the rectum, latent syphilis and an advanced carcinoma of the cervix. He made no attempt to correlate the three and regarded them as separate diseases with no demonstrable interrelationship. In 1936 Liccione⁵ reported two cases in which an adenocarcinoma of the rectum developed at the site of a venereal lymphogranulomatous stricture. Since both patients were observed for a considerable period of time prior to the development of malignancy, he believed that the venereal disease was the exciting factor in the tumor formation. He could not find any reports of similar cases.

We have recently had the occasion to observe five patients in whom malignancies were associated with venereal diseases and appeared to develop secondarily to them. While we have made no attempt to determine the incidence, this has led us to believe that the diseases are not uncommonly associated. The five cases represent several different types. Three are examples of malignancy developing at sites of lymphogranuloma venereum, one on a chancroid and one on a lesion of granuloma venereum.

*Read before the Medical Association of Georgia, Atlanta, April 27, 1939.

†From the Department of Pathology, University of Georgia School of Medicine.

REPORT OF CASES

Case 1—Lymphogranuloma Venereum and Carcinoma of the Anus.

A negro female, 49 years of age, gave a history of urinary incontinence, occasional passage of feces from the vagina and enlargement of the labia for the past 17 years. For several years there had been gradually increasing constipation. Examination revealed vesicovaginal and rectovaginal fistulae, elephantiasis of the labia, rectal stricture, hemorrhoids and fibromyomas of the uterus. The Wassermann and Kahn reactions on the blood were positive. The fistulae were repaired and hysterectomy and colostomy were done. Sections of tissue adjacent to the fistulae were reported as "chronic inflammation and granulation." These have subsequently been reviewed and the histology is characteristic of that found in lymphogranuloma venereum. There were multiple fibromyomas of the uterus and chronic salpingitis.

For eight years the colostomy opening functioned well; the patient gained weight and was in good general health. At this time she noticed an itching ulceration about the anus which gradually increased in size to involve a considerable area and extend anteriorly to the fourchette. Frei and chancroid reactions were found to be positive. Biopsy of the anal margin revealed an epidermoid carcinoma and chronic inflammatory changes which suggested venereal lymphogranuloma. Deep x-ray therapy was begun but the patient was uncooperative and was not seen again for three months. During this time the colostomy opening had closed and passage of feces per rectum resulted. There was pronounced constipation alternating with periods of diarrhea and frequent nausea and vomiting. Lately there had been considerable blood and pus in the stools and continuous lower abdominal pain with recurrence of the urinary incontinence. The ulceration about the anus had considerably enlarged. The colostomy opening was reconstructed but the patient died several days later. At necropsy metastases were found in the abdominal lymph nodes.

Case 2—Lymphogranuloma Venereum and Carcinoma of the Labia.†

A negro female, 23 years of age, had elephantiasis of the vulva which began five years ago shortly after the appearance of a small ulcer. This was followed one year later by a suppurative inguinal adenitis. At numerous times during this period she was treated for pellagra and the vulval swelling was observed. Ulceration of the right labium, accompanied by itching and a foul discharge, had been present for the past month. On examination both labia were enlarged. The left was ulcerated and on its surface were a number of elevated papillary processes covered by epithelium. In the right inguinal region was a small area of scarring. The Frei reaction was positive and the Wassermann and Kahn reactions on the blood were negative. No Donovan bodies were found in stained films from the genital ulcerations. The left labium was removed with the electric cautery. Pathologic examination of the excised tissue revealed the presence of multiple early epider-

moid carcinomas arising in several of the papillary excrescences. Dense peritubular lymphocytic and plasma cell infiltration, lymphatic dilation and fibrosis suggested the additional diagnosis of lymphogranuloma venereum. Following operation the area of excision became infected and healing did not occur. When seen three months later the area had enlarged considerably and extended to the other labium and about the anus.

Case 3—Lymphogranuloma Venereum and Carcinoma of the Penis.†

A negro male, 57 years of age, gave the following history: Two and a half years ago he had two small "warts" on the corona of the penis which a physician first told him was a "chancere" and later "granuloma." After a short period of treatment these were removed surgically. The area of excision did not heal and the ulceration gradually extended over the penis, which it entirely destroyed. This was associated with dysuria and itching but no local pain. On examination the penis was absent and at its site was a red granular area the size of a "large marble." Its base was firm and indurated and there was no tenderness. Stained films from the lesion contained no Donovan bodies. Chancroid and blood Wassermann and Kahn reactions were negative. A biopsy of the lesion revealed the presence of a squamous cell carcinoma. A dense peritubular infiltration of lymphocytes and plasma cells, fibroblastic proliferation and lymphatic dilation suggested the diagnosis of lymphogranuloma venereum. This was later confirmed by a positive Frei reaction. Many fuso-spirochetes were demonstrated in the ulceration. The patient refused surgical treatment and was not followed further.

Case 4—Chancroid and Carcinoma of the Penis.

A white male, 33 years of age, gave a history of a small wart occurring on the glans penis two and one-half years prior to admission. This was excised a short time after its appearance but the area did not heal and gradually destroyed most of the penis. During this time repeated blood Wassermann and Kahn reactions were negative and no Donovan bodies were found in the lesion. Intensive anti-syphilitic treatment for one year and 40 subsequent injections of Euadin produced no improvement. A recent biopsy elsewhere was negative for malignancy. At the time of admission† most of the shaft of the penis had been destroyed by a fungating ulceration and there remained only a small stump 3 cm. long to which the glans was attached laterally. There were two deep sinus tracts at the peno-scrotal junction which discharged thin watery pus. The scrotum was edematous. Stained films from the ulceration revealed numerous Ducrey bacilli and fuso-spirochetes. The Chancroid reaction was positive. Frei test and Wassermann and Kahn reactions on the blood were negative. Treatment consisted of increasing doses of chancroid antigen subcutaneously and intravenously until desensitization was accomplished two months later. Irrigation of the sinuses and local applications were also employed and produced some improvement.

Biopsy from several sites of the ulceration and from the sinuses revealed the presence of multiple early epidermoid carcinomas. The histology suggested chancroid

†The patient was at this time admitted to the private service of Dr. R. B. Greenblatt, Augusta, having been previously treated in a neighboring state.

†Cases 2 and 3 have been previously reported.¹

and numerous fuso-spirochetes were found in the section. X-ray therapy was begun but the lesion showed little response and the patient developed a bilateral suppurative orchitis. In view of this the entire area including the scrotum, testicles and inguinal lymph nodes were excised. Following operative convalescence the patient returned to work, although a small area in the scar did not heal. During the next six months this gradually increased in size to 2.5 cm. in diameter. This was excised and pathologic examination revealed a persistence of the malignancy. Radium needles were implanted in the wound. This again failed to heal and at subsequent operation it was found that the tumor had invaded the pubic bones and displaced most of the prostate.

Case 5—Granuloma Venereum and Carcinoma of the Cervix Uteri.

A negro female, 58 years of age, multipara 7, complained of vaginal spotting of blood for eight months, gradually increasing in amount and frequency. For a long period of time preceding this there had been a whitish vaginal discharge which had been much more pronounced in the past 2 years. During the past year she had lost thirty pounds in weight. Menopause occurred fifteen years before.

On examination the vagina was found to be filled with blood. The entire cervix was moth-eaten, fungating and red, and bleeding was produced by touching it with a sponge. Considerable bloody purulent material flowed from the cervical os. The uterus was partly fixed and the fornices were indurated. Hemoglobin was 60 per cent and the Wassermann and Kahn reactions on the blood were negative. The cervix was dilated, and six ounces of thick yellow pus obtained from the uterine cavity. A biopsy of the cervix revealed the presence of a squamous cell carcinoma. In some areas there was ulceration, granulation and dense polymorphonuclear leukocytic and plasma cell infiltration with occasional large cells containing Donovan bodies. Radium was applied to the cervix several times until 6600 mg. hrs. had been given over a period of two months. At the end of that time the cervix was atrophic and there was no gross evidence of disease. The patient has not been seen subsequently but a recent communication from her states that she is in good general health and has had no recurrence of the vaginal bleeding or discharge, two years after treatment.

SUMMARY

We have presented five cases in which venereal diseases were complicated by the development of carcinomas on the involved sites, namely, lymphogranuloma venereum of the rectum, labia and penis respectively; chancroid of the penis, and granuloma venereum of the cervix uteri. Four of these patients had been under observation for variable periods of time prior to the development of malignancy. One had lymphogranuloma venereum of the rectum for 25 years. The stricture had been recog-

nized and a colostomy performed eight years before the carcinoma developed. Another patient had been treated for pellagra for five years and during this time it was repeatedly but only incidentally observed that she also suffered from venereal lymphogranuloma with elephantiasis of the labia. A third patient, according to his history, had been treated for "chancre" and "granuloma" for two and one half years. When first seen at the cancer clinic of the University Hospital carcinoma was suspected and was confirmed by biopsy. In addition the biopsy revealed that the carcinoma was superimposed upon a lesion of venereal lymphogranuloma. A positive Frei test confirmed this observation. The fourth patient, who had a penile lesion, had been intensively treated for syphilis and granuloma venereum for two and one half years. This lesion was not recognized as a chancroid until the penis had been destroyed and an epidermoid carcinoma had developed. The diagnosis was determined by demonstration of Ducrey bacilli, positive chancroid bacillary test and biopsy. A previous biopsy had shown no malignant disease. The last case was recognized clinically as a carcinoma of the cervix. Biopsy revealed that this was superimposed upon granuloma venereum. A history of a vaginal discharge for several years supports this opinion.

Observation of these patients suggests that carcinomas not infrequently develop secondarily to the lesions of venereal disease. When venereal diseases do not respond properly to adequate treatment or have an appearance which is not typical of the disease in question, biopsy to exclude or include the diagnosis of malignancy is essential.

BIBLIOGRAPHY

1. Pund, E. R., Greenblatt, R. B., and Huie, G. B.: The Role of the Biopsy in Diagnosis of Venereal Diseases. *Amer. J. Syph., Gonorr. & Ven. Dis.*, 22: 495, July, 1938.
2. Boyd, William: *Surgical Pathology*, Ed. 3, Phila., W. B. Saunders Co., p. 230, 1934.
3. Boyd, William: *A Text Book of Pathology*, Ed. 2, Phila., Lea and Febiger, p. 693, 1934.
4. Bernstein, P.: Lymphogranuloma Inguinale, Carcinoma and Syphilis. A Triad of Diseases Occurring in One Patient. *Amer. J. Ob. and Gyn.*, 29: 718, May, 1935.
5. Liccione, W. T.: Venereal Stricture of the Rectum: Adenocarcinoma as a Late Complication of Lymphogranuloma Inguinale. *Amer. J. Surg.*, 31: 551-555, March, 1936.

THE METHODS AND VALUE OF BIOPSIES IN MALIGNANT TUMORS*

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I would like to show lantern slides listing the various methods of biopsy with demonstration of the most common methods—namely, the incisional and aspiration biopsies.

1. Lantern slide of "Methods of Biopsy."
2. Lantern slide of photo of biopsy forceps; electrosurgical loop; No. 1 blade.
3. Lantern slide of photo of drawing of incisional biopsy.
4. Lantern slide of photo of drawing of instrumental biopsy.
5. Lantern slide of photo of drawing of aspiration biopsy set-up.
6. Lantern slide of photo of drawing of aspiration biopsy.

Biopsy is a surgical procedure and should be decided upon after due deliberation. It should be done with proper respect to asepsis, gentleness, and precision. Good exposure and illumination are essential to success.

Biopsy is not intended to replace the clinical diagnosis and should follow only after careful history and physical examination. Properly indicated laboratory and radiographic studies should be made before. In some instances, the so-called therapeutic test, consisting of x-ray and radium therapy, or specific drugs, will aid in diagnosis, but these are to be resorted to only after the negative biopsy or after indications where biopsy is contraindicated.

The usual methods of biopsy may be listed as follows:

1. Excisional
2. Incisional:
 - (1) Scalpel
 - (2) Instrumental
 - (3) Electrosurgical
3. Curettage:
 - (1) Conventional

- (2) Suction

4. Aspiration needle biopsy:

- (1) Tissue

- (2) Fluid

5. Punch biopsy

The excisional biopsy is usually safe and preferable when the lesion is small, easily accessible, of low-grade malignancy—clinically—and located so as to allow complete and wide removal without mutilation and interference with possible further treatment. The tumors usually biopsied in this manner are located in the skin and subcutaneous tissues, the mucous membranes of the mouth and the vagina, and all suspected melanomas. This type of biopsy gives not only the diagnosis but usually also the histogenesis, the radiosensitivity, and even the prognosis.

The incisional biopsy is probably the most commonly used method. When this is properly done, with a sharp scalpel and a minimum of trauma, I believe it is harmless in most instances. Frequently, there is no other way of positively confirming the diagnosis in tumors of the breast, thyroid, abdomen, and bone. In these instances, I believe it is safer to have an immediate pathologic diagnosis and to go ahead with complete extirpation of the organ, or else begin preoperative irradiation at once. I do not believe it is possible to say that any certain number of days or hours even are safe to wait before the radical procedure. Of course, when it becomes necessary to do an incisional biopsy on a breast lesion, for instance, it is more desirable to completely excise the entire tumor for microscopic examination. Some have advocated the electrosurgical instrument for exploring the questionable breast tumor. I see no advantage in it over clean, accurate, scalpel surgery. The coagulation of the capillaries and lymph channels only stops up the vessels, and might even cause the free cells to metastasize.

In the case of incisional biopsies in bone tumors, especially in the extremities, I believe it is preferable to prepare the patient for amputation and proceed in the event of a positive frozen section. In case there is no decision, the wound should be closed

*Read before the Medical Association of Georgia, Atlanta, April 27, 1939.

in layers to promote healing and prevent fungation.

Biopsy by means of the various biting instruments is by far the most common method in ulcerated and superficial tumors. Practically all skin lesions of suspected or obviously malignant tumors should be biopsied. It is frequently impossible to distinguish a basal cell cancer from the squamous type, and yet this is very important. The latter can and does metastasize and should be treated more radically by all methods. With the common use of the laryngoscope, naso-pharyngoscope, bronchoscope, esophagoscope and gastroscope, proctoscope, cystoscope, and the vaginal speculum, lesions in the various body orifices and cavities can be literally exteriorized and biopsy taken with the usual biting instrument. In the use of these instruments, one should be careful not to encourage bleeding, lest the tumor fields be obscured and the biopsy fail to get into the tumor. This is especially true of rectal, esophageal, and cervix lesions. The speculum should always be inserted into the vagina before bimanual palpation. A vigorous and not unusual type of bimanual examination not only prevents biopsy, but frequently causes hemorrhage.

The electrosurgical biopsy is thought by some to approach the ideal method. But our experience has not been so encouraging. The main complaint is that the tissue is destroyed by the heat, which often prevents a histologic diagnosis. This is the great criticism of the transurethral resection. It would be of great advantage to the pathologist if the operator would select eight or ten pieces of the resected specimen which he suspects and place them in a separate container of 10 per cent formalin for examination. In the fungating tumors, the electrosurgical method of biopsy has the great advantage of checking bleeding.

In suspected malignant tumors of the body of the uterus, one should not hesitate to curet the uterine cavity. Proper regard for asepsis and gentleness should be maintained. The size of the uterine cavity should be noted and the cervical canal should be thoroughly dilated. The endo-

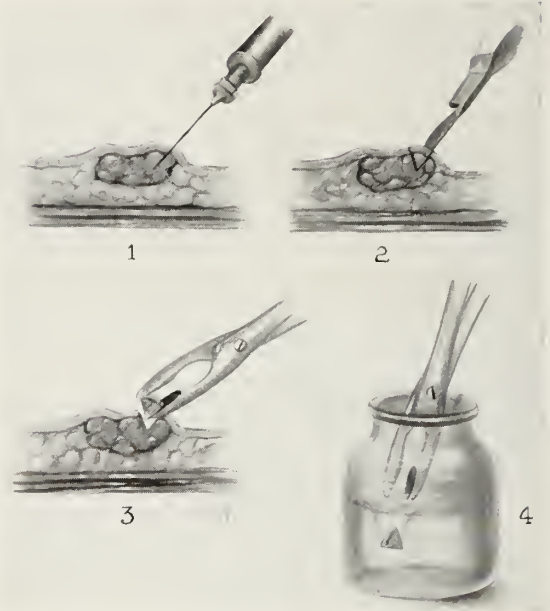


FIGURE 1. Incisional Biopsy on skin or any superficial lesion: (1) The tumor is infiltrated with novocain 1%. (2) Wedge of tumor outlined with pointed knife blade. (3) Wedge removed with biting forceps. (4) Specimen placed directly in 10% formalin without handling.

metrium is curetted systematically and any suspicious pieces of tissue selected and removed from the clot for microscopic examination. If the diagnosis is at all doubtful in the gross, it is safer to insert a small quantity of radium and run a quick paraffin section before the removal of the radium. Frozen section is too frequently inaccurate on uterine curettings.

The suction curet has been used satisfactorily by some in suspected malignant tumors of the body of the uterus. It is not thought to be as accurate as the deliberate curettage. However, if the biopsy is negative, it can always be checked by the deliberate curettage. The suction curettage is usually done as an office procedure without anesthesia and consists of inserting a fenestrated hollow instrument into the uterine cavity and applying suction after dislodging tissue from the endometrial cavity.

Since the advent of a large amount of preoperative irradiation, the aspiration biopsy method has become popular, and in trained hands, very accurate. In many instances, it has completely supplanted other methods of biopsy. It is most helpful in the non-ulcerated, subcutaneous and deep tumors where the skin is not broken and it is

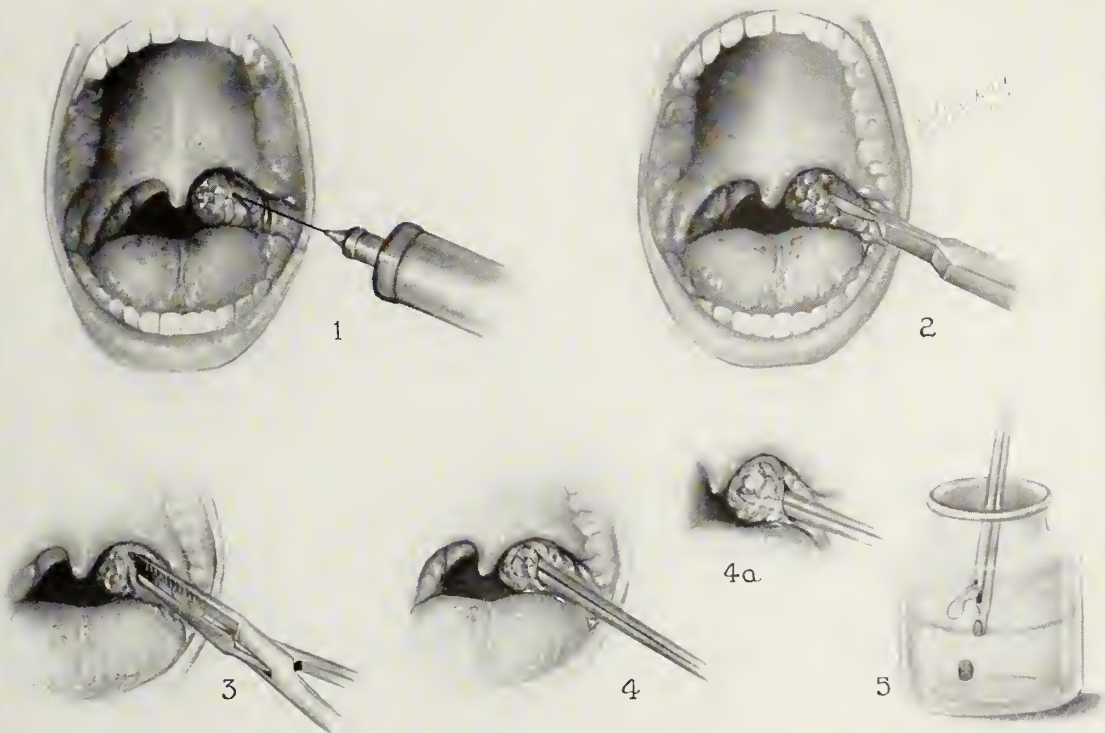


FIGURE II. Incisional Biopsy of tonsil or any encapsulated tumor:
(1) Novocain 1% infiltrated into capsule.
(2) Capsule incised for 1 cm.

(3) Edges spread with clamps.
(4) Biopsy forceps introduced (4a) and opened.
(5) Forceps closed and withdrawn and specimen placed directly into formalin 10% without handling.

not desirable to have it broken. In suspected metastatic lymph nodes, aspiration biopsy gives all the information that is needed. In the more deeply situated tumors, such as the breast, bone, kidney, prostate, and lung tumors not accessible to the bronchoscope, aspiration biopsy frequently supplants excisional biopsy to great advantage.

The aspiration needle biopsy method consists of inserting a sharp 18 gauge needle into the tumor and creating a vacuum in the syringe, which in turn aspirates the tissue into the needle and the syringe. The tissue is then smeared on a glass slide and stained immediately. The whole procedure takes only ten or fifteen minutes. The unstained slides, however, will keep for months, if necessary.

There have been some vigorous objections to this method on various grounds. Some object to the possible danger involved in puncturing an organ, or a tumor, with an 18 gauge needle. But clinical and experimental evidence do not justify this fear. Others object on the ground that it is inaccurate and that it would be easy to miss

the tumor with the needle, and that, furthermore, few pathologists are able to interpret the smear.

In a series of over two thousand breast tumor aspirations, accurate diagnoses were made in ninety-five per cent. To the skilled tumor pathologist who is sympathetic with the effort to make a diagnosis with a minimum amount of discomfort and expense and loss of time to the patient, aspiration biopsy smears are not difficult to interpret.

The punch biopsy is often confused with the aspiration needle biopsy. It is seldom used any more, since the aspiration biopsy has practically supplanted it. It is useful, however, on such occasions as, for example, in bone tumors and large bulky tumors. This instrument consists of a trocar with a window on the side and the sharp hollow stylet which is inserted through the trocar and catches whatever tissue might fall into the window. Larger pieces of tissue are obtained than with the aspiration needle biopsy but considerably more trauma is necessary.

The value of removing tissue from the living subject for microscopic study is uni-

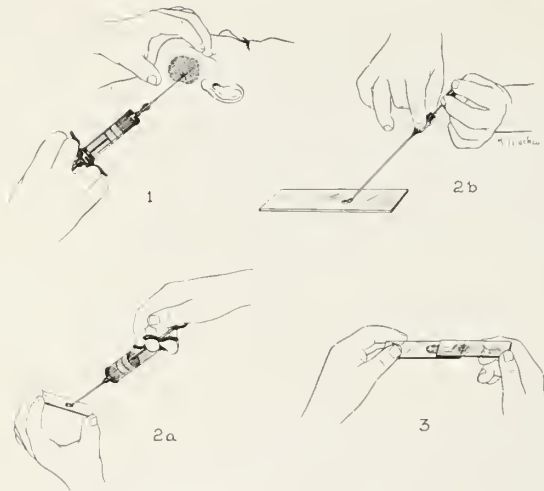


FIGURE III. Aspiration Biopsy.

- (1) Under local anesthesia the skin is punctured with a sharp pointed knife blade and an 18 gauge needle on a 20 cc. Luer syringe is inserted into the tumor. Suction is made and the needle thrust in 2 or 3 directions. The vacuum is released and needle withdrawn. The specimen will usually be found in the needle.
- (2a) Shows it being forced out onto the slide with the syringe and
- (2b) Shows it being recovered with the needle's stylet. The latter method is more preferable. The tissue is then smeared between two slides as thin as possible in one stroke. The slide is then fixed and stained with hematoxylin and eosin and examined. The procedure takes about 10 minutes.
- (3)

versally recognized. It not only helps to establish the diagnosis, and increase our knowledge of the individual tumor, but, in most cases of malignant tumors in general, it is absolutely essential before justified and radical treatment can be instituted. There are those who object to biopsy on the grounds that it might stimulate the growth of the primary tumor, or result in distant metastases. This theory, of course, has to be acknowledged and respected but it has not been supported by experimental or clinical evidence. Therefore, we believe that in the main, biopsy is desirable and should be practiced in nearly all cases, for the cases are few where its value is outweighed by possible dangers.

There are no rules which can be laid down in regard to the indications and contraindications of biopsy in a given case. As a general rule, we believe that all tumors treated by irradiation alone, and those having preoperative irradiation, should have a biopsy at the beginning or shortly after starting treatment. Whenever possible, without resorting to major surgical procedures, those having surgery alone should also have a biopsy, for then one could proceed more deliberately and adequately. In

the cases where a highly malignant tumor is encountered, the operation may be abandoned completely as an unwarranted procedure.

We avoid incising suspected melanomas and practice wide excision instead for diagnosis. In suspected lymphomatous lesions, lymph nodes are locally excised with care not to break the capsule and thus prejudice and interfere with the diagnosis.

The method of biopsy has to be individualized, since it depends on various factors which have to do with the patient, the surgeon, and the pathologist.

The anatomic location of the suspected tumor in a given patient, in many instances decides the question. The age, general physical condition, and the stage of the disease are frequently as important. The suspected type of tumor and its degree of malignancy also have bearing on the question, for one would be more cautious of biopsy in the highly malignant tumor than in one of low malignancy. A third factor which should always be considered in a patient is the kind of treatment that is likely to follow biopsy. For example, in an elderly advanced patient, with a lesion at the lower end of the esophagus, when nothing would be done except use palliative x-ray therapy, one would be less likely to force the biopsy than in a suspicious neck node in a young, well nourished man who had been treated three or four years previously with radium for a lesion on the lip. For, in the latter case, there is still hope for cure, and biopsy is mandatory.

It is a fairly good rule, however, to advise always a biopsy in the advanced patient where a poor prognosis is given.

The choice of biopsy depends on the surgeon's knowledge and experience with various methods of biopsy as well as on the pathologist's knowledge of tumor pathology and his preference for certain fixing and staining methods.

The close cooperation of the surgeon taking the biopsy and the pathologist examining the tissue cannot be over-emphasized. The ideal method, of course, is for the pathologist to be present and see the area from which the tissue is removed. The ex-

perience of the surgeon in taking biopsies and his familiarity with the various methods frequently decide the value and method of biopsy. If the biopsy is taken from the surrounding tissues or the necrotic center of a tumor as, for example, a rectal tumor, one is bound to get a negative report. It is this negative report wherein lies the danger of relying on biopsy entirely. If the pathologist is not present, he should be given all the pertinent information regarding the patient, and especially regarding the location, duration, and local description of the tumor.

The fixed paraffin section is preferred by most pathologists and should be done whenever feasible. Some pathologists refuse to make diagnoses on smears and frozen sections. These points have to be taken into consideration when deciding on the method of biopsy.

I have attempted to show the various methods of biopsy and point out that the choice of procedure depends on the individual patient, the surgeon, and the pathologist. Biopsy is universally recognized as a standard diagnostic procedure and should be done more frequently but not to the exclusion of the careful clinical study of the patient. It has few dangers and its contraindications are probably more theoretical than real. The value of biopsy for accurate diagnosis, prognosis, and treatment is inestimable.

BIBLIOGRAPHY

1. Bishop, E. L.: *J. Med. Assn. of Ga.*, Vol. 21, No. 10, p. 379, 1932.
2. Bloodgood, J. C.: *Am. J. Surg.*, Vol. 24, p. 331, 1924.
3. Helwig, C. A.: *Arch. Path.*, Vol. 14, p. 516, 1932.
4. McGraw, A. B. and Hartman, F. W.: *J. A. M. A.*, Vol. 101, p. 1205, 1933.
5. Neely, J. M.: *J. of Lab. and Clin. Med.*, Vol. 21, p. 1124, 1936.
6. Martin, H. E. and Stewart, F. W.: Discussion—*Am. J. Roent. and Ra. Ther.*, Vol. 35, p. 245, 1936.

DISCUSSION OF SYMPOSIUM ON CANCER

Dr. Ralph Mosteller (Atlanta): I am happy to have the privilege of discussing the excellent papers of Drs. Campbell and Harrold.

Cancer is one of the oldest diseases known to mankind, but one of the newest to be brought into the field of preventive medicine. When we look back and see how some of the other diseases which have been such a scourge to mankind have been brought under control by the application of preventive measures, we naturally ask ourselves how can we apply our present knowledge of cancer to bring this disease under control, and reduce the mounting mortality from its ravages. It is only in the last twenty years that the serious thought of medical

men, in general, have been turned to the solution of this problem and the "problem is a challenge" worthy of our cooperative efforts.

Let us consider briefly what the problem is: First, we know from experience that cancer can be cured if treated early and that cancer can be prevented if known precancerous lesions are corrected. Then the first element of the problem consists in getting the patient to the doctor while the disease is still early and localized. To do this the public must be informed of the early signs and symptoms of cancer, be impressed with the importance of early diagnosis and treatment, and not to wait until the disease is advanced before seeking medical attention, for delay is the handmaiden of death to the cancer patient. In the past far too many patients through ignorance have failed to go to the doctor until the disease had reached an advanced stage. Education of the public relative to cancer is an important factor in the fight against this disease. This can be accomplished by the dissemination of correct information to the public regarding the various aspects of cancer. This is the function of specially organized groups and is being carried out admirably throughout the whole country by the American Society for the Control of Cancer through the Women's Field Army in cooperation with the medical profession.

The second element of the problem is the relation of the general practitioner to cancer control. The family physician will see the cancer patient first and if he is alert to the early signs and symptoms that may possibly mean cancer in his patients and takes the proper steps to make a diagnosis, cancer will be prevented or discovered much earlier than is now being done. Seemingly trivial symptoms should not be dismissed by the doctor too lightly. If we are to reduce the mortality from cancer, the disease must not be allowed to escape the attention of the physician until the patient, himself, can make the diagnosis. Cancer that is obvious to all is usually too far advanced to offer any hope of cure. Then complete cooperation between patient and doctor is essential to a successful cancer program. The patient must be taught the importance of consulting the doctor when anything is wrong, no matter how trivial the condition may seem: the doctor must be cancer conscious and painstaking in his examination of the patient, calling for consultation with the radiologist, pathologist, or other specialists if necessary as an aid in making a definite diagnosis.

The third problem in cancer control is an economic one. We know from observation and experience that many cases of cancer fail to receive treatment, even after both doctor and patient know that cancer exists, due to the financial inability of the patient to secure proper treatment. To meet this condition, there must be some provision for continued adequate State-aid in the treatment of cancer to indigent patients.

Through the cooperation of the public, the medical profession, and the State Department of Health under the Georgia Cancer Control Program, it is reasonable to hope that mortality from this disease will be reduced in the next few years at least by one-third.

Dr. G. T. Bernard (Augusta): Dr. Hailey has presented a most sane and sensible paper, which is based on the treatment of 200 patients. If we had many more men like Dr. Hailey, each one treating a great many skin cancers according to the methods he advocates, the mortality from this particular malignancy would be greatly reduced.

We have too many deaths from skin cancer in Georgia every year. I have been greatly impressed during our short era of State-aid with the large number of neglected and poorly treated skin cancers which were referred to our clinic from the out-of-the-way and so-called backward counties. Many of these cases were hopeless, some having had no treatment, some had been treated with pastes, and strange as it may seem in this day, a few had been treated by faith healers.

Of all cancers those of the skin should yield the highest percentage of cures. Developing in plain view and perfectly accessible, theoretically they should all be curable. Practically, however, this will never be possible. The malignant melanoma will continue to be almost 100 per cent fatal unless pigmented moles are treated thoroughly before they turn malignant. I still advocate surgical excision and pathologic study as the best method of dealing with moles.

Multiple epitheliomas will continue to carry off a small percentage of cases, no matter what the treatment and by whom. I refer to the person with a weather-beaten and wholly keratotic skin which breaks down in many places faster than the individual lesions can be cured. Sooner or later one of these growths will be of the prickle cell character, will not be sensitive to any treatment and will metastasize fatally.

I am glad Dr. Hailey mentioned kraurosis vulvæ. This condition or leukoplakic vulvitis (this latter term I prefer), is not so uncommon and deserves a paper all its own. It is a definitely precancerous condition and is progressive. When epithelioma develops it is of the metastasizing kind. We had three cases of this condition the past year. Many treatments had been used with no success and our treatment was vulvectomy in all three, preceded in one of the cases by a series of x-ray. In all three cases pathologic examination showed one or more cancers in each of the specimens.

In conclusion, I wish to commend the principles of study and treatment that have been so splendidly laid down by Dr. Hailey.

RABBIT SERUM VALUABLE IN PNEUMONIA

A reduction of almost 25 per cent in the pneumonia mortality rate, with a minimum of serum reaction or sickness, by the use of specific concentrated rabbit serum is reported by Italo F. Volini, M.D., and Robert O. Levitt, M.D., Chicago, in *The Journal of the American Medical Association* for Sept. 30.

The mortality in their 153 pneumonia patients who were treated with the serum was 9.8 per cent as compared to 33.4 per cent in 164 patients not given serum.

The authors state: "Sensitivity to rabbit serum is rarely encountered. It is remarkably free from immediate reactions and produces fever in a relatively small percentage of patients. Delayed serum reactions are also infrequent. Serum leads itself to the concentrated single total dose administration, which procedure saves much time and probably enhances its curative efficiency."

SOME COMMON ENDOCRINE DISORDERS IN THE FEMALE* ** † ‡

Special Reference to Treatment with Male Sex Hormone

ROBERT B. GREENBLATT, M.D.

RICHARD TORPIN, M.D.

Augusta

Introduction

The employment of male sex hormones in the therapy of certain disorders peculiar to women may appear paradoxical but it is not unphysiologic. Womack and Koch¹ in 1932 reported that normal women excreted quantities of androgens in the urine comparable to those excreted by normal males. Callow and Callow² isolated from the urine of normal women the same two androgens identified in the urine of normal males by Budenandt and his co-workers. Hamblen³ and his associates have demonstrated increased androgenic titres in the urine of some patients with episodes of amenorrhea. Salmon⁴ has shown that the administration of testosterone propionate in adequate doses can inhibit the gonadotropic hyperactivity of the hypophysis in the female castrate. Shorr, Papanicolaou and Stimmel⁵ have found that the follicular smear obtained with injection of estradiol benzoate could be abolished by simultaneous injection of testosterone propionate. This has been corroborated by Rothermich⁶. Thus the physiologic justification for the employment of androgens in the therapy of female endocrine disorders is exemplified in the contributions of the above authors which demonstrate that: 1. Testosterone may inhibit the gonadotropic activity of the hypophysis, and 2, male sex hormone nullifies, counteracts or neutralizes the action of female sex hormone. Mocquot and Moricard⁷ in 1936 anticipated that testosterone acetate might be employed in the therapy of functional gynecologic disorders. Since then many publications have appeared and

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**From the University of Georgia School of Medicine.

†For the testosterone propionate (Perandren) used in this study we are indebted to Ciba Pharmaceutical Products, Inc., Summit, N. J.

‡Received for publication November 14, 1939.

the indications for the use of chemically pure androgenic substances have increased manifold. The following reports were selected from the group of cases, treated at the Endocrine Clinic of the University of Georgia School of Medicine, Augusta, to illustrate the varied uses for male sex hormone in the therapy of gynecic disorders.

Suppression of Lactation

It has been established that with the decline in the level of estrogenic substances at parturition the inhibiting influences are removed, lactogenic hormone is secreted and lactation occurs. In the experimental animal, lactation may be suppressed or prevented by the administration of estrogen (Nelson)⁸, or testosterone propionate (Robson)⁹. Several investigators have shown that lactation during the puerperium may be promptly and effectively inhibited by the administration of sex hormones, presumably due to suppression of anterior pituitary function although Foss and Phillips¹⁰ believe that estrogens offset only the local action of lactogenic hormone. They obtained good results with relatively small doses of oestrone given orally. Kurzrok and O'Connell¹¹ were able to inhibit lactation on injection of 75-100 mg. of testosterone propionate just before milk appeared. All the phenomena of mammary congestion were generally arrested in 24 hours. These results appear quite consistent with those obtained with estrogens. Although we have found estrogens satisfactory we have treated six patients in our series with testosterone propionate. Lactation had set in or was permitted to commence before therapy was attempted. In this group successful results were obtained with dosages averaging between 60-120 mg. Liquids were not limited nor was magnesium sulphate administered nor were other medicaments employed to aid in suppression of lactation.

REPORT OF CASE

A white female aged 21 suffered a miscarriage at 6-7 months. About five days afterwards the breasts became markedly enlarged and very painful as lactation set in. Sixty milligrams of testosterone propionate were administered on the 5th day and 30 mg. on the 6th day. Within 48 hours pain subsided, mammary congestion was arrested and lactation began to subside.

Mazoplasia

The vast group of mammary disturbances

which vary from simple congestion to that of gross glandular irregularities, painful or palpable, have been described under the improper name of chronic mastitis. Mazoplasia is the term used and recommended by Cheatle and Cutler¹² to signify those simple conditions of the breast associated with pain and lumpiness and are supposedly due to a physiologic imbalance rather than a pathologic disturbance. Cutler found that the oral administration of ovarian residue frequently yielded satisfactory results. Lewis and Geschicter¹³ have reported that estrogenic therapy of adenosis of the breast is highly successful. In France such "mastopathies" have been treated successfully with testosterone acetate by Desmarest and Capitain¹⁴ and Douay¹⁵. The following notes are abstracted from our case records:

A colored female aged 34 presented herself at our clinic with large pendulous breasts, diffusely lumpy and painful. Testosterone propionate was administered in 10 mg. doses at weekly intervals. After the fourth dose she felt so improved that she did not seek further treatment. She claimed that improvement was immediately noted after the first injection. On the other hand, in one patient with a lumpy, painful breast and galactorrhea, 400 mg. of testosterone propionate were administered without benefit. Simple mastectomy was finally performed. Histologic section revealed marked inflammatory tissue reactions about several small galactoceles from which secretion had escaped into the surrounding tissue.

In another case, that of a white female, aged 25, with markedly painful and nodular breasts, there was also severe dysmenorrhea. Male sex hormone in quantities up to 100 mg. per month has failed to relieve the breast pains, but has modified the dysmenorrhea.

Menopause

The treatment of the menopause with estrogens has become an established and useful procedure. Mocquot and Moricard were the first to find that the administration of certain androgens brought about an amelioration of symptoms. This has been corroborated by Salmon; Shorr, Papanicolaou and Stimmel; Birnberg, Kurzrok and Livingston¹⁶. The latter group justified its use on the ground that estrogens occasionally reactivate the endometrium with resultant bleeding. Estrogens, nevertheless, remain the therapy of choice in women with the menopausal syndrome. However, patients are encountered occasionally who prove refractory to this mode of therapy. If testosterone propionate be added or sub-

stituted, desirable results are frequently obtained. In one of our patients massive doses of estrogens failed to relieve certain undesirable menopausal accompaniments such as melancholia, choked up sensations, weighty feeling about the heart, etc., although hot flashes were controlled and the vaginal smears revealed full follicular effect. Testosterone propionate was substituted and 50 mg. per week for five weeks were administered. The patient improved remarkably, was far less depressed and on occasion was almost euphoric.

Premenstrual Tension

Major menstrual molimina, the premenstrual tension of Frank¹⁷, is frequently annoying enough so that medical aid is sought. Israel¹⁸ ascribed this syndrome to defective luteinization with subsequent progesterin deficiency or relative hyperestrogenemia. We have, however, noted this syndrome in many patients with good corpus luteum formation as is reflected in the endometrial biopsies removed prior to or with onset of menses. The administration of estrogens to these patients frequently serves to aggravate the condition. Small doses of testosterone propionate, on the other hand, alleviate the distressing symptoms. Not infrequently, associated with this syndrome is dysmenorrhea or hypermenorrhea. In occasional cases readjustment of dosages or omission of therapy for a month or two is necessary because in some, the tension returns although many of the other disagreeable features remain absent. The following case report illustrates the use of male sex hormone in this condition.

A white female aged 28, married, para 1, complained of marked irritability, breast pains, tenseness for ten days prior to each menses. Suction curettage performed at onset of menses revealed excellent secretory type of endometrium. Three doses of 10 mg. testosterone propionate administered about 17, 22, 27th day of cycle gave patient complete relief. The patient remained well for several months after therapy was stopped.

Menometrorrhagia

Gaines, Salmon, and Geist¹⁸ have shown that testosterone propionate in massive doses can inhibit menstruation. The arrest of hemorrhage in the various forms of menometrorrhagia by male sex hormone has been the experience of many investi-

gators. By using massive doses success has been encountered in the greater number of patients, but not without virilizing side effects in occasional cases. Papanicolaou, Ripley and Shorr used 775 mg. in the treatment of one patient; Loeser²⁰ used 500 mg.; Foss²¹ employed from 300-800 mg. and Geist, Salmon and Gaines²² 300-1000 mg. We have not used this particular method except for the odd case, for we have found that intramuscular injections of 20-40 cc. of blood from lactating amenorrheic patients is of therapeutic value in menometrorrhagia²³. This method of course is not always applicable and there are occasions when testosterone may well be used to advantage.

REPORT OF CASE

A white female aged 41 suffered a bout of metrorrhagia some two years ago which was successfully treated with corpus luteum extract. A recent recurrence failed to respond in the same manner. Suction curettage revealed a cystic glandular hyperplasia. Cessation of bleeding occurred within nine days in which period of time 200 mg. of testosterone propionate were administered.

Hypermenorrhea

We have encountered striking results by employing testosterone in the therapy of patients with hypermenorrhea where bleeding takes place from a presumably normal luteal type of endometrium. Premenstrual tension, abdominal bloating, painful and congested breasts, varied degrees of so-called premenstrual edema frequently are precursory symptoms in this group of patients. The following case is typical:

A white female aged 34 gave a long history of hypermenorrhea. The cycle was quite regular with profuse bleeding occurring for 7-12 days or longer, necessitating 12-15 pads per day. Premenstrual tension, abdominal bloating, premenstrual edema, fatigue and bouts of depression were particularly marked in her case. The accompanying chart illustrates that 10-20 mg. of testosterone propionate administered in the latter part of the cycle sufficed to reduce the flow to normal with concomitant abatement in the accompanying symptoms. No therapy was attempted prior to her October menstrual period and all the symptoms as well as the hypermenorrhea recurred.

Dysmenorrhea

Dysmenorrhea has long been a bug-bear to the gynecologist. Every patient with dysmenorrhea requires individual study and frequently some stigma or disturbance may be found which will yield a clue to therapy.

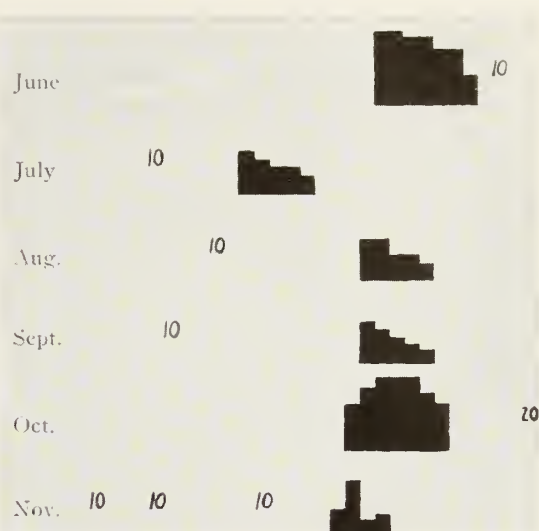
The athletic girl with the infantile uterus, the buxom young lady with hyperestrogenism and anovulatory bleeding, the woman with the irregularly ripened endometrium showing some progesterone deficiency or the ever tired and somewhat backward school girl with hypothyroidism, the young amazon with traces of masculinity, all require different types of therapy. There is, however, a large group in whom no disorder is discernible. This group may be treated with testosterone propionate and successful results may be expected in a goodly number, although failures will be encountered. Salmon and his associates²⁴ treated 30 women with testosterone propionate and although the dosages were very high, they met with success in some 26 cases. We have used much smaller doses and we have tried to determine the minimal requirements as is illustrated in the following cases:

Case 1—A white female, aged 29, suffered from severe dysmenorrhea which necessitated one or two days' absence from her work each month. It was found that from 40-70 mg. of testosterone propionate administered during the latter half of her cycle gave relief. A lesser amount proved insufficient, for the dysmenorrhea returned during one month when only 20 mg. were employed.

Case 2—A colored nurse, aged 21, complained of marked premenstrual abdominal bloating, painful, lumpy breasts, nervousness and severe dysmenorrhea. During her first two months of treatment 55 and 45 mg. of testosterone propionate respectively were administered with marked alleviation of the menstrual molimina but only moderate relief of the dysmenorrhea. During the third month 75 mg. were administered with complete relief of her dysmenorrhea as well as the prodromal symptoms. However, enlargement of the clitoris occurred which regressed when further therapy was stopped.

Dosage and Side Effects

It appears that the massive doses (500-1000 mg.) employed by some investigators may be necessary in order to obtain certain results; however, the risk of permanent side-effects such as hirsutism or voice changes are too great. Loeser employed 2000 mg. of testosterone propionate in one case and noted transitory lowering of the timbre of the voice. Foss noted an increase in the size of the clitoris in patients receiving considerable doses. Geist, Salmon and Gaines remarked that 4 of 25 patients de-



The treatment of hypermenorrhea with testosterone propionate

Suction curettage performed on the 26th day of cycle, Nov. 10, 1938, revealed on histologic section a normal premenstrual type of endometrium. The amount of testosterone propionate in milligrams administered is represented by numerals. Note the recurrence of hypermenorrhea with the omission of therapy prior to the October menstrual period.

veloped mild facial hirsutes, one developed facial acne, in three slight coarsening of the voice was noted. After the discontinuance of treatment these clinical by-effects showed signs of regression with the exception of one case of hirsutes. Greenhill and Freed²⁵ have warned against massive doses for they had the embarrassing experience of witnessing the development of hirsutism in two patients. We concur with Freed, Greenhill and Soskin²⁶, who believe that smaller doses are in the end more efficacious and it has been our policy to more or less limit dosage to 200 mg. for any one month. Frequently 10-50 mg. per month have given us the results that were sought. By pursuing such a policy we may have failed in occasional cases where larger doses may have succeeded; however, we have not been embarrassed by the development of virilizing stigmas in any of our patients, except one in whom temporary enlargement of the clitoris occurred.

Conclusion

The use of male sex hormone in the treatment of certain endocrine disorders in the female has a sound physiologic basis and is frequently indispensable.

Case reports are presented corroborating the findings of previous investigators that in selected cases, testosterone propionate may

be used successfully in the therapy of menorrhagia, hypermenorrhea, dysmenorrhea, menopause, mastoplasia and in the suppression of lactation.

The most consistent results were obtained by employing small doses, particularly in hypermenorrhea, premenstrual tension and suppression of lactation.

Male sex hormone is by no means a cure-all for the varied endocrine disorders but its usefulness in selected cases may no longer be denied.

A new application for this hormone is presented, namely, in the treatment of menstrual molimina.

REFERENCES

1. Womack, E. B., and Koch, F. C.: *Endocrinology* 16: 273, 1932.
2. Callow, N. H., and Callow, R. K.: *Biochem. J.* 32: 1759, 1938.
3. Hamblen, E. C., Ross, R. A., Cuyler, W. K., Baptist, M. and Ashley, C.: *Endocrinology* 25: 491, 1939.
4. Salmon, U. J.: *Proc. Soc. Exp. Biol. and Med.* 37: 488, 1937.
5. Shorr, E., Papanicolaou, G., and Stimmel, B.: *Proc. Soc. Exper. Biol. and Med.* 38: 759, 1938.
6. Rothermich, N. O.: *Endocrinology* 25: 520, 1939.
7. Mocquot, P., and Moricard, R.: *Bull. Soc. de Gynec. et d'Obst. Paris.* 25: 787, 1936.
8. Nelson, W. O.: *Am. J. Anat.* 60: 341, 1937.
9. Robson, J. M.: *Proc. Soc. Exper. Biol. and Med.* 36: 153, 1937.
10. Foss, G. L., Phillips, P.: *Brit. M. J.* 2: 887, 1938.
11. Kurzrok, R., and O'Connell, C. P.: *Endocrinology* 23: 476, 1938.
12. Cheattle, G. L., and Cutler, M.: *Tumors of the Breast.* J. B. Lippincott Co., Philadelphia and Montreal, 1937.
13. Lewis, D., and Geschietter, C. F.: *J. A. M. A.* 199: 1894, Sec. 4, 1937.
14. Desmarest, E., and Capitain, M.: *Presse Med.* 42: 777, 1937.
15. Douay, E.: *Compt. Rend. Soc. Franc. de Gynec.* 8: 165, 1938.
16. Birnberg, C. H., Kurzrok, L., and Livingston, S.: *Endocrinology* 23: 243, 1938.
17. Frank, R. T.: *Arch. Neurol. and Psychiat.* 25: 1053, 1931.
18. Israel, S. L.: *J. A. M. A.* 110: 1722, May 21, 1938.
19. Gaines, J. A., Salmon, U. J., Geist, S. H.: *Proc. Soc. Exper. Biol. and Med.* 38: 779, 1938.
20. Papanicolaou, C. A., Ripley, H. S., and Shorr, E.: *Proc. Soc. Exper. Biol. and Med.* 37: 689, 1937-38.
21. Loeser, A. A.: *Lancet* 1: 373, 1938.
22. Foss, G. L.: *Lancet* 1: 992, 1938.
23. Geist, S. H., Salmon, U. J., and Gaines, J. A.: *Endocrinology* 23: 784, 1938.
24. Greenblatt, R. B., and Torpin, R.: *J. M. A. Ga.* 28: 342, 1939.
25. Salmon, U. J., Geist, S. H., and Walter, R. I.: *Am. J. Obst. and Gynec.* 38: 264, 1939.
26. Greenhill, J. P., and Freed, S. C.: *J. A. M. A.* 112: 1575, April 22, 1938.
27. Freed, S. C., Greenhill, J. P., and Soskin, S.: *Proc. Soc. Exp. Biol. and Med.* 39: 440, 1938.

REDUCING THE INCIDENCE OF DEAFNESS

The most effective way to reduce the incidence of acquired deafness and impaired hearing is early diagnosis and immediate treatment of all diseases of the ears, since infections are often the forerunners of these conditions. Horace James Williams, M.D., Philadelphia, maintains in *The Journal of the American Medical Association* for Sept. 9.

Catarrhal and pus-discharging infections of the middle ear generally occur in children before the age of 5; therefore the child must be carefully watched during this period for any signs of inflammation or infection of the ears.

Sinusitis also plays a part in impaired hearing and deafness, in that when a child cries or vomits, the nasal secretions are forced into the ear tube. These secretions should be removed mechanically.

PNEUMOCOCCIC MENINGITIS TREATED WITH SULFAPYRIDINE AND ANTIPNEUMOCOCCIC TYPE I ANTISERUM

Report of Case

EMERY C. HERMAN, M.D.

LaGrange

Recoveries from pneumococcic meningitis have been rare. Since the advent and use of sulfapyridine and specific antisera for certain types of pneumococcic infections, a number of cures have been reported in the past year. In the *Journal of the American Medical Association* for April 15, 1939, Drs. Cutts, Gregory, and West of Providence, R. I., reported the successful treatment of a patient with pneumococcic meningitis, Type XX. It is my privilege to add another case report to the list of pneumococcic meningitis recoveries.

Case Report

B. W., aged 6 months; weight approximately 20 pounds. With the exception of constipation baby had had perfect health since birth.

Baby became ill during the night of March 29, 1939, with fever and restlessness. The following morning a left apical pneumonia developed. Temperature was 104 degrees. Abdomen slightly distended. The child was extremely ill for approximately eight days with fever varying between 102-106 degrees per rectum. The treatment at home consisted of: liquids freely; enemas; sedatives for fever and restlessness; camphorated oil rubs, mustard plasters for chest; pron-tosil and sulfanilamide.

On April 4 the child became quite nervous and restless and slight rigidity of the neck was noted. The pupils were dilated, and a tendency to convergent strabismus was present.

On April 6 a partial crisis developed. Temperature dropped to 99 degrees; but the general symptoms were not improved as would be expected in a crisis.

The child was admitted to the hospital on April 9. Symptoms at this time were: temperature 101-102 degrees per rectum; respirations were rapid; extreme restlessness and nervousness with irregular twitchings and movements of the hands and legs. On moving the child an occasional "crying out" was noted; neck was rigid and head retracted; pupils were moderately dilated and failed to react; lids half open and there was a tendency of the eyeballs to converge with occasional nystagmus; the spine was rigid and bowed on account of the retraction of the head; the skin was pale but body was warm; thumbs were clinched in palms of each hand; Kernig's sign was also present. The ears were not involved; heart action good; pulse around 140; urine negative. A spinal puncture revealed a cloudy

fluid; leukocytes in spinal fluid numbered 3,800; leukocytes in blood numbered 36,500. Smears and cultures from spinal fluid showed Type I pneumococcus.

Treatment: Specific therapy was immediately begun. Type I Lederle's antipneumococcus rabbit serum was given intravenously according to the manufacturer's directions. Sulfapyridine, approximately 4 grains every 4 hours was given through a nasal tube; liquid nourishment and fruit juices were also given through the nasal catheter; phenobarbital was used as a sedative. One hundred sixty thousand units of Type I serum were given over a period of three or four days; 100,000 units being given in the first 48 hours. One grain to each pound of body weight of sulfapyridine was given in each 24 hours.

An improvement was noted on the second day, following the institution of this treatment, the temperature declined to 99 degrees; general appearance was good, and the symptoms and signs were less marked. Blood count and spinal fluid examinations were made at intervals.

On April 10 leukocytes in the blood had dropped to 32,250, and next day to 28,500 in the blood, and 2,950 in the spinal fluid.

On account of the sulfapyridine therapy, the red cells in the blood, by April 13, had decreased to 2,950,000 and the hemoglobin was 52 per cent. A blood transfusion was given.

On April 15 the polynuclears had fallen to 1,400 in the spinal fluid, and improvement continued. Sulfapyridine was discontinued.

On April 17 the temperature had reached normal; leukocytes in blood were down to 15,200; child taking nourishment well, was less rigid, and was able to lie upon back with legs straight. This improvement continued without signs of relapse and the patient was dismissed from the hospital on April 28, twenty days after admission. For several weeks the child had some weakness of the muscles of the neck. Scarcely more than three months after this serious illness, the child had gained weight, approximately 25 pounds at the age of ten months; and dentition has been normal. From all appearances, I am hopeful that there will be considerably more improvement as time passes. Just what damage, if any, has been done on account of the meningitis, time alone will show.

107 Broad Street

WEATHER MAY INFLUENCE ASTHMA

The popular belief that weather affects the severity of asthma has recently received experimental confirmation by studies on laboratory animals, *The Journal of the American Medical Association* for Sept. 9 says.

Symptoms identical with those of human asthma were produced in guinea pigs by allowing the animals to breathe "vaporized antigens," i. e. invisible sprays of foreign proteins. The animals were then subjected to various artificially produced weather conditions.

Although it was found that the "vapor" asthma is not dependent on such factors as temperature, humidity or atmospheric pressure as long as these remain constant on the day of the experiment, rapid changes in the weather conditions resulted in increasing the average severity of the process by about 50 per cent.

CHRONIC SUPERFICIAL GASTRITIS*

CRAWFORD F. BARNETT, M.D.

Atlanta

The stomach is an organ of reciprocal relationships. It is affected almost as frequently and as severely by extrinsic as by intrinsic factors. This was directly studied by William Beaumont on his patient Alexis St. Martin who, in 1822, received a permanent gastric fistula by the discharge of a musket loaded with duck shot. With an accuracy that deserves quotation, Dr. Beaumont states:

"Undue excitement by stimulating liquors, overloading the stomach with food—fear, anger, or whatever depresses or disturbs the nervous system, the villous coat becomes sometimes red and dry, at other times pale and moist, and loses its smooth and healthy appearance;—at other times, irregular, circumscribed, red patches varying in size or extent from half an inch to an inch and a half in circumference are found on the internal coat. These appear to be the effect of congestion in the minute blood vessels of the stomach. There are, also, seen at times, small aphthous crusts in connection with these red patches. Abrasions of the living membrane—is not an uncommon appearance."¹

The demonstration of pathologic changes in the gastric mucosa incident to irritating psychic and local factors was not accompanied by a satisfactory diagnostic method. The diagnosis of gastritis fell into disrepute in the reaction against the Broussaie period. Pathologists failed to obviate post-mortem mucosal changes and x-ray investigation did not satisfactorily confirm gastritis.

Faber of Copenhagen first successfully demonstrated the morbid anatomy of chronic gastritis by injecting 4 per cent formaldehyde solution into the abdomen and stomach immediately after death.² Even then pathologists and clinicians were reluctant to accept a condition so difficult to diagnose and confirm, as gastritis.

Diagnosis

With the development of the flexible gastroscope by Rudolf Schindler of Munich, chronic pathologic changes in the mucous membrane of the stomach became a clinical and pathologic entity in good repute. This

*Read before the Medical Association of Georgia, Atlanta, April 26, 1939.

instrument was first used in Georgia on May 28, 1937.

The diagnosis of gastritis with the flexible gastroscope is an office procedure. Very little discomfort is experienced by the patient since the throat is anesthetized by spraying with 2 per cent pontocaine. The interior of the stomach is illuminated by a small light which permits visualization of the gastric mucosa with perfect clarity. In gastritis the mucosal changes correspond with those inflammations found in other mucous membranes. The clinician has hitherto necessarily relied on such indefinite expressions as dyspepsia, and nervous indigestion, but now, easy inspection of the interior of the stomach does much to solve the perplexities in diagnosing digestive complaints.

The difficulty in demonstrating organic gastric or duodenal disease in patients requiring gastrointestinal x-ray, is illustrated by a series of 3,000 consecutive patients by Dwyer and Blackford in whom only 15 per cent received diagnosis of organic gastric or duodenal lesions by x-ray.³

In a series of 1,000 consecutive patients gastroscoped by Dr. Rudolf Schindler, 41.8 per cent showed a chronic non-specific gastritis.⁴ The simple classifications of atrophic hypertrophic, and superficial usually are accepted in chronic forms.⁵

Consideration will be limited to chronic superficial gastritis because it is the probable precursor of atrophic gastritis, and because it is amenable to treatment.

In Schindler's series, the chronic superficial form consisted of 11 per cent in a total of 41.8 per cent showing chronic gastritis.⁴ Since the symptoms are less severe in this form, fewer patients with superficial gastritis present themselves for gastroscopy. I have found the incidence of superficial gastritis, compared with other forms of chronic gastritis, to be higher in private patients than in clinic patients.

Pathology

Gastroscopic inspection of superficial gastritis reveals a patchy, deeper reddening in the orange-red mucosa. This localized hyperemia is distinctive. Often there are edematous thickened folds appearing soft

and boggy, somewhat lighter than the adjacent mucosa. Exudation is seen consisting of adherent mucus between the rugae or on the folds varying from small flecks to firm membranes. Frequently there are small mucosal hemorrhages appearing as irregular, dark red spots lying in the edematous mucosa. Occasionally very small erosions which appear as tiny, roughened, red or grey spots are seen.

The anatomic changes are a combination of acute and chronic processes. Any factor, intrinsic or extrinsic, which produces an abnormal congestion of the capillary network in the gastric mucosa may bring about a rupture of many capillary loops. This is followed by some necrosis.⁶ This is a paramount factor in the etiology and pathology of superficial gastritis. With healing, there are residual lesions. There is infiltration of the mucosa between the glands and the surface epithelium. Collections of lymphocytes near the muscularis mucosa are prominent. The cells of the surface epithelium appear vacuolated and cloudy.

Symptomatology

Baker considers the muscularis mucosa to be always involved.⁷ This is evidenced by a thickening which is caused both by hypertrophy of the muscle and by fibrosis. The changes in the submucosa give rise to a disturbed neuromuscular function causing an intragastric tension. This is probably the basis of most of the symptoms since changes confined to the mucosa probably give rise only to a vague epigastric distress.⁹ Renewed activity in the inflammatory lesions may account for the frequent alternation of quiescent periods with acute exacerbation of symptoms.

On the basis of the pathologic changes involved, it is readily understood how the symptomatology varies with the intrinsic and extrinsic factors. However, we may indicate the symptoms most frequently present.

Superficial gastritis more often occurs in patients twenty to forty years of age.¹⁰ Its average duration is about three years, which is less than in other forms of gastritis. About 50 per cent show periodic

distress and 30 per cent constant distress consisting of burning and a sense of pressure in the upper part of the abdomen, more frequently epigastric. There may be a gnawing pain. Usually the distress occurs within the first half-hour after eating, though it may be delayed from one to three hours. Further food or alkalis give much less relief than in hyperchlorhydria unaccompanied by gastritis.

Physical Examination

Physical examination in superficial gastritis is of little assistance. The patient may not appear to be ill. Few cases reveal more than a slight tenderness just below the xiphoid process. There has been described a characteristic tender zone extending along the left side of the middle of the abdomen which corresponds with the location of the stomach itself.¹¹ When this zone is reached in palpation, the subjective sensation is of a different character, but not one of real pain.

Clinical Pathology

Gastric analysis reveals much variation. In one series, hyperacidity was present in 50 per cent of the cases and anacidity in 26 per cent. In 56 per cent there was a tendency toward a delayed emptying of the stomach as judged by fractional analysis.¹² The secretion of mucus is variable and may not alone be considered pathognomonic.¹³ When it is increased, the presence of superficial gastritis may, however, be suspected. Marshall has suggested that if the antrum is affected, much mucus will be the result, whereas hyperacidity will result if the body or pylorus is involved.¹⁴

Etiology

Consideration of etiology in this condition involves two basic factors. Robertson offers a working hypothesis in his observation that whenever, for any reason, a slight overdistension in any local area may bring about a rupture of one or more capillary loops; as soon as the hemorrhage occurs, necrosis of the involved part is an inevitable result.¹⁵ Healing undoubtedly leaves a residual lesion. With this fundamental concept, it is readily seen how there is a multiplicity of contributing factors. Dietary excesses, autonomic imbal-

ance, missing teeth, chemical irritants, excesses in temperature, and focal infection are the most important.

The second basic factor involves a localized lowered resistance in the epithelium of the mucosa. The probability of a vitamin A deficiency impairing the epithelial integrity of the gastric mucosa justifies further clinical and physiologic investigation than it has yet received. Cramer noted intestinal and epithelial degeneration in rats on a vitamin A deficient diet.¹⁶ Tilden and Miller observed that monkeys developed extensive microscopic ulceration in the intestinal tract when deprived of vitamin A.¹⁷

In my series of cases showing primary superficial gastritis on gastroscopy, biophotometric determinations have been suggestive, but not conclusive, of a pathologic vitamin A deficiency.¹⁸ This will be verified by blood vitamin A determination. It is necessary to evaluate the expected vitamin A deficiency occurring in patients on restricted diets while not having gastritis. It is also imperative that we obtain positive controlled clinical and gastroscopic improvement in superficial gastritis patients with no other therapy than vitamin A.

Therapy

Treatment in chronic superficial gastritis is promising. Eighty per cent of all cases vigorously treated become permanently symptom-free and show a normal gastroscopic picture.¹⁹ Therapy should be based upon the etiologic and pathologic background.

1. Preceding treatment there should be a careful gastroscopic evaluation of the mucosal changes.

2. A period of rest in bed cannot be over-emphasized. This provides a controlled environment and is important in securing continued cooperation from the patient.

3. At first, the diet should be liquid; gradually add one article of solid food at a time, maintaining a diet which produces a minimum of motor and secretory activity. It is best to emphasize small, frequent feedings.

4. Since these patients have often been on a markedly restricted diet for an indefinite period of time, a general hypo-

vitaminosis is frequent. For this reason, polyvitamin therapy is indicated. Vitamin C (cevitamic acid) is used to decrease capillary fragility, and is therefore, possibly beneficial in preventing erosions. The use of massive doses of vitamin A should be tried. The ideal technic is to give a daily dose of 50,000 to 100,000 I. U. for several weeks, then 20,000 I. U. daily for three months²⁰. If there is a gastrointestinal intolerance, it may be administered parenterally.

5. If hyperchlorhydria is present, aluminum hydroxide gel, without the addition of any essential oil, is useful.

6. Sedatives and antispasmodics are routine. The carbamide group of drugs secures satisfactory sedation without unpleasant drowsiness. Atropin sulphate in a drop dosage has proven flexible and inexpensive, and also gives much relief from symptoms.

7. Eradicate foci of infection, especially in teeth, tonsils, sinuses, and bronchi. The possibility of accompanying cholecystitis should be investigated. A careful rectal study should always be done, since a cryptitis, fissure, or hemorrhoids may produce astonishing gastrointestinal repercussions.

8. The time-honored procedure of gastric lavage has proven of less benefit than was expected, except where there was gastric retention. Where there is persistent recurrent erosion, one lavage of silver nitrate 1:5000 is followed by a lavage of normal saline. This is never repeated.

9. The use of laxatives definitely retards improvement, probably by producing a general gastrointestinal hyperirritability. Particular care is required to reestablish and maintain regular bowel movement by educating the colon to an unvarying habit time. Occasionally a small, warm, normal saline enema is of value in accomplishing this.

10. In the treatment of any accompanying condition, it is worthwhile to enteric-coat all oral medication, if possible.

11. Certain minor therapeutic agents deserve mention, as hesperidin; Russell viper venom orally has been suggested in gastric hemorrhage.²¹ Spectacular results

with histaminase, an extract of intestinal mucosa, administered intramuscularly, have been reported.²² This would be in harmony with Ivy's opinion that gastrin is really histamine,²³ and the production of gastritis by Overgaard with histamine injections.²⁴

12. Gastrosopic evaluation of improvement, enables the physician to regulate dietary privileges and general environment according to the mucosal indications.

Summary

Gastritis as a complex entity was demonstrated on Alexis St. Martin by Dr. William Beaumont.

Inspection of the gastric mucosal pattern through the flexible gastroscope reveals changes corresponding with those chronic inflammations found in other mucous membranes.

The gastrosopic picture of superficial gastritis with its histology is described.

The symptomatology of superficial gastritis is interpreted on the basis of the pathologic changes.

Physical examination is evaluated and one sign described. Results of gastric analysis are presented.

Etiology is considered from a histopathologic standpoint and a preliminary report is made on a recent concept.

A therapeutic regime offering tangible results is outlined.

Conclusion

An attempt has been made to integrate the problems of chronic superficial gastritis.

BIBLIOGRAPHY

1. Beaumont, William: Experiments and Observations on the Gastric Juice and the Physiology of Digestion. Boston: Lilly, Wait and Co. 1834, P. 107-108.
2. Faber, Knud: Gastritis and Its Consequences. P. 14.
3. Dwyer, M. F. and Blackford, J. M. Interpretation of Gastric Symptoms. Radiology Vol. 14, P. 38-44. 1930.
4. Schindler, R. Personal communication, April 1, 1939.
5. Schindler, R. and Ortmeyer, M.: Classification of Chronic Gastritis with Special Reference to the Gastrosopic Method. Arch. Int. Med. 57:959, May, 1936.
6. Robertson, H. E.: Ulcerative Gastritis and Residual Lesions. J. A. M. A., Vol. 112, P. 23, Jan. 7, 1939.
7. Baker, C. P.: Histo-pathology of Chronic Gastritis. Proceedings Staff Meet, Mayo Clinic, Vol. 2, P. 521, Aug. 12, 1936.
8. Swalm, William A. and Morrison, Lester M. The present Status of Treatment in Chronic Gastritis. Amer. J. Digestive Diseases, Vol. 5, P. 474, Oct. 1938.
9. Eusterman, G. B. The Gastritis Problem. Sou. Med. J. 29-685, July 1936.
10. Carey, James B.: The Symptomatology of Gastritis. Amer. J. Digestive Diseases, Vol. 5, P. 354, Aug. 1938.
11. Schindler, R. Gastrosopy. The University of Chicago Press, 1937, P. 192.
12. Bank, J. and Renshaw, John F.: Chronic Superficial Gastritis. J. A. M. A., Vol. 112, P. 214-217, Jan. 21, 1939.
13. Monaghan, J. F., Bockus, H. L., Kornblum, K., and Moffitt, G. R.: Gastric Secretory Behavior in Chronic

- Gastritis. A. Journal of Digestive Diseases and Nutrition. Vol. 3, P. 660, Nov. 1936.
14. Marshall, E. A.: The Incidence of Chronic Gastritis. J. of the Amer. Institute of Homeopathy. Jan. 1938.
 15. Robertson, H. E.: Ulcerative Gastritis and Residual Lesions. J. A. M. A., Vol. 112, P. 23, Jan. 7, 1939.
 16. Cramer, W.: Lancet, 1, 1046, 1923.
 17. Tilden and Miller: J. Nutrition, 3, 121, 1930.
 18. Bowcock, Harold: Biophotometric Determinations; Personal Communication.
 19. Schindler, R.: Gastroscopy: The Endoscopic Study of Gastric Pathology. 1937, P. 194.
 20. Jeghers, Harold, Vitamin A Deficiency in Adults. The New International Clinics, Vol. 1, P. 31, March 1938.
 21. Goldstein: Medical Record, Dec. 15, 1937.
 22. Bartelheimer, Heinrich: Die Behandlung des Mogenund Zwölffingerdarmgeschwurs mit Torantil; Münchener Medizinische Wochenschrift. 1937-38. Aug. 13, P. 1289-1291.
 23. Ivy, A. C.: Glandular Physiology and Therapy. J. A. M. A., Vol. 105, P. 506, Aug. 17, 1935.
 24. Overgaard, K.: Experimental Investigations as Development of Antrum Gastritis. Klin. Wehnschr, Vol. 12, P. 1407, Sept. 9, 1933.

DISCUSSION ON PAPER OF DR. CRAWFORD F. BARNETT

Dr. John B. Fitts (Atlanta): This paper has presented a comprehensive survey of the "Gastritis" problem. It has shown the logical division into the chronic superficial, the chronic hypertrophic and the atrophic.

In my opinion chronic gastritis has always deserved a place as a clinical entity if made with meticulous care, and all extra gastric lesions are excluded. Until the advent of gastroscopic studies, the diagnosis as such had fallen into disfavor among many clinicians in this country, because it was made too loosely and carelessly. The diagnosis was never abandoned in Europe, however.

I think the etiology of chronic gastritis is important. In my experience, oral sepsis, including peripheral abscesses, gingivitis and edentulous mouths have been causative factors in many cases. Banks, in reporting fifty cases of chronic superficial gastritis, found focal infection, often multiple in eighty-six per cent of his cases and edentulous mouths in nearly half of the cases.

In the medical wards of Grady Hospital in the college division where negro patients are used for teaching purposes we find oral sepsis in a very gross form, many of such cases present symptoms of nausea, vomiting and epigastric pain, cardinal symptoms of chronic gastritis.

Recently, in the *London Lancet*, was reported cases of gastritis with gastroscopic findings following the use of acetylsalicylic acid. In view of the widespread use of this drug in this country, the etiologic significance is interesting.

Dr. Barnett, in his paper, has called attention to the etiologic factor of a lowered resistance of the gastric mucosa through certain nutritional deficiency states notably "Vitamin A" and he has pointed out the definite characteristic mucosal changes that occur. Real progress is being made in recognition of the deficiency states and in their treatment.

I wish also to reemphasize the importance of lesions in the lower intestinal tract in their effect on the peristaltic gradient and hence on the sensitivity of the gastric mucosa.

I think, too, that functional pylorospasm producing a delayed gastric emptying time causes an irritation of the gastric mucous membrane.

Schindler has emphasized the fact that certain gastric changes in the mucosa are precursors to gastric ma-

lignancy, and certainly any approach that offers early light on gastric neoplastic disease should be given thoughtful consideration. However, much additional observational data must accumulate before the relationship can be proved.

I think with further time for correlation between clinical and gastroscopic findings, chronic gastritis will assume the proper place in clinical medicine that it deserves.

PALLIATIVE PROCEDURES FOR INOPERABLE MALIGNANT LESIONS OF THE COLON

WILLIAM D. WILSON, M.D.
Savannah

With the recent advances in preoperative preparation, operative technic and postoperative care the percentage of operable cases of malignant lesions of the colon continues to increase. However, until means are available for earlier recognition of this condition there will continue to be a group of patients in whom radical extirpation of the growth is technically impossible. Death from intestinal obstruction can be avoided, however, and the means for accomplishing this are worthy of consideration.

Lesions of the right colon are less likely to obstruct than those located more distally but when, upon exploration, a locally inoperable condition is found, a palliative procedure is justified. Simple ileostomy, of course, prevents obstruction but its use is to be condemned because of the inevitable excoriation of the skin of the abdominal wall and the loss of fluids from the body by exclusion of the absorptive mechanism of the colon. Ileo-transverse colostomy is the procedure of choice. This may be accomplished by transection of the ileum as far distally as possible and anastomosis to the colon by either a side-to-side or end-to-side procedure. If the latter is chosen the proximal end of the ileum used for anastomosis should be cut at an angle to assure adequate blood supply to the antimesenteric portion of the bowel and to enlarge the stoma. This procedure is quite satisfactory and necessitates the closure of only one end of ileum rather than two.

If the lesion is locally operable but there are metastases present and the condition of

the patient does not warrant an extensive operative procedure the growth may be exteriorized along with a portion of ileum. A Rankin three-bladed clamp is used to seal the normal portions of ileum and colon proximal to and distal to the growth. After the peritoneum becomes sealed, which only requires a few hours, a small opening is made in the ileum with a cautery just proximal to the clamp to relieve obstruction. The clamp is left in place for seven or eight days after which it falls off. After the induration has subsided anastomosis may be accomplished by the use of crushing clamps to destroy the approximated walls of ileum and colon after the method of Mikulicz.

In lesions of the transverse and descending colon proximal colostomy may be used, but if a procedure is available to avoid a permanent abdominal wall stoma without too great risk, this is preferable. A colostomy stoma high on the abdominal wall is very difficult to care for because of inability to fit a colostomy belt properly. Even though metastases are present removal of the growth is justifiable, if possible. This can probably be accomplished more safely as an extraperitoneal resection using a Rankin clamp. If this is impossible palliative colocolostomy may be employed. Recently, in conjunction with Dr. C. W. Mayo, I reviewed 42 cases in which this procedure was used at the Mayo Clinic for inoperable lesions in various locations in the large bowel. Of this group of cases 9 patients had lesions located in the transverse colon, 16 in the splenic flexure, 5 in the descending colon and 12 in the sigmoid colon. The operative mortality for the entire group was 14.2 per cent, which does not seem excessive when one considers the marked debility and generally poor operative risk presented by patients in this group. The group of patients having the highest mortality rate was that whose lesion was located in the splenic flexure. This is understandable because of the anatomic inaccessibility of this location. Also all deaths occurred in those patients in whom the sigmoid colon was used in the anastomosis. In all but one instance where death occurred the anastomosis was between

the transverse colon and sigmoid colon. This fact suggests that undue tension existed on the line of suture. Another factor may be that in some instances the omentum was not of sufficient length to protect the anastomosis.

Of the 36 patients in this group who survived operation the average duration of life after operation was 11.5 months. Thus with the use of palliative colocolostomy in a group of patients hopelessly inoperable, they were afforded almost a year of fairly comfortable existence without an external colonic stoma.

STERILITY AND MISCARRIAGE OFTEN DUE TO UNDERACTIVE THYROID

Sterility and abortion or miscarriage are often due to an underactive thyroid, which is of frequent occurrence in pregnancy. E. L. King, M.D., and J. S. Herring, M.D., New Orleans, assert in *The Journal of the American Medical Association* for Sept. 30.

"The severer types," the authors believe, "particularly when associated with the same condition in the husband, will be found to be productive of sterility. It therefore appears logical to determine the basal metabolic rate as a routine in early pregnancy and to institute proper treatment when the rate is found to be low. We believe that by so doing we have been able to carry many patients to term who might otherwise have aborted because of the deficient function of the thyroid."

They report that: "Of 150 pregnant women, seventeen were found to have an overactive thyroid, seventy-two had normal readings and in sixty-one the thyroid was underactive. Of the seventeen, three had aborted in a previous pregnancy. Of the seventy-two women with normal rates, four had previous miscarriages. There was only one abortion in this group of seventy-two and eight threatened abortions were averted by small doses of thyroid extract.

"Of the sixty-one women in the underactive group, eleven had had thirteen previous miscarriages. There were eight abortions. Two of the women had been adequately treated, while in six the condition was not detected promptly because the patient was not seen sufficiently early and there was little or no treatment and abortion occurred. The diagnosis was made early in the remaining patients, treatment with thyroid extract was instituted promptly and the pregnancy went to term. There were eleven cases of threatened abortion."

THE PRESIDENT'S PAGE

BRILL'S FEVER

Brill's, or endemic typhus fever, was first noted in the southeastern part of the United States about thirty years ago, when a Savannah physician wrote a description of the disease which was published in the proceedings of the Medical Association of Georgia, under the title "X Fever, or Unknown Fever, or Fourteen Day Fever." However, it was not recognized as the endemic form of typhus until some years later.

This disease has become more prevalent and severe until there are now more than a thousand cases reported annually in Georgia. Approximately one hundred of these occur in Savannah, with a mortality rate of one to two per cent. This, in comparison with the former rates, seems somewhat lower, but there are many variations in its virulence as well as in its incidence.

State and County health authorities have taken cognizance of its increased importance, and are taking steps toward some effort to control its spread. Our State Board of Health is giving careful consideration to it, and is making definite plans for the control of the disease by controlling and destroying rats.

K. F. Maxcy of the United States Public Health Service worked for some years in Savannah in an effort to prove that rats in some way were important factors in the transmission of the disease. He labored long and arduously in his efforts to find the exact means of transmission from rat to man and almost made the discovery which Dyer and his co-workers made a little later in Charleston, using Savannah data and rats.

These investigators found that the flea was the vector, but transmission is by indirect action. The flea becomes infected by biting the diseased rat, carrying vast numbers of highly infectious organisms in its intestinal canal. While feeding he deposits these on the skin of the host. Itching at the site of the puncture causes scratching which rubs the infectious material into the skin, and thus produces the disease.

Ricketts studied endemic typhus, Rocky Mountain Spotted Fever, Tularemia, and several other maladies of man. He came to the conclusion that they were etiologically similar and that clinical difference might be due to the change in intermediate hosts. Upon acceptance of this opinion, authorities classed these diseases as Rickettsia. It has been demonstrated that Rickettsia is transmitted not only by fleas, ticks, body lice and mites, but by head lice as well, in some instances.

Health authorities have noted with much concern that Brill's is steadily spreading from the focus in Savannah. Alabama and Mississippi are showing a marked increase in incidence of the disease as are the coastal regions to the north.

In 1929 the Georgia Department of Health reported 57 cases of this disease in the State, but ten years later a total of 1,017 cases was reported. The incidence seems to be on a decline in Savannah, where a total of 110 cases was reported in 1932, against 72 reported in 1938. However, there are noted recessions in the spread of this as well as other diseases.

Infected rats travel the highways on trucks loaded with food materials, and vans transporting household furniture. For this reason, measures of control are expensive and not easily enforced. Rat-proofing of all buildings is the essential step, and this must be followed by widespread education and enforced measures of extermination. Rats do not stay on premises where they can get no food, so great care must be exercised in storing food and disposing of garbage. The least important is rat destruction, for a constant food supply and a safe hiding place always invite a large rat population.

The cunning and ubiquitous rat has demonstrated through the ages his ability to withstand all efforts directed toward his extermination. We must, therefore, render all buildings inhospitable to this destructive and loathsome pest.

WILLIAM H. MYERS, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

FEBRUARY, 1940

CANCER MUST BE CONTROLLED

According to all statistical reports cancer mortality in the United States has been increasing at such a formidable rate that it has now reached the enormous total of 150,000 deaths annually. It will, according to the Metropolitan Life Insurance Company's estimates, reach a peak of 270,000 deaths by 1960, at which time our population is expected to number 147,000,000 people, 40 per cent of whom will be 40 years of age or over. After that time both the population and the cancer mortality are expected to level off, or possibly recede to some extent. Even now we have almost twice as many citizens over 40 as there were 50 years ago, consequently the so-called degenerative conditions due to cardiovascular-renal changes are rapidly taking the place of the infectious, contagious and epidemic diseases that formerly destroyed the children and younger members of society. Possibly cancer should not be classified as a degenerative disease, but more people are attacked by this disease during the period of life when their cells are beginning to undergo involution changes.

We believe that cancer can be prevented. We also believe that cancer, if diagnosed early and promptly and properly treated, can be cured. The prevention and cure of cancer is personal and depends on the personal cooperation between the public and the medical profession. One of the most important means of preventing cancer is the annual or semi-annual physical examination, when an individual must relate to the physician every symptom experienced during the past year if he expects to receive the greatest benefit.

A splendid illustration of the remarkable results that may be obtained through routine, careful physical examination,

regularly and systematically pursued, is contained in a report published by the Metropolitan Life Insurance Company in the December, 1939, issue of their *Statistical Bulletin*. It states that during 1938 there were only 10 deaths from all forms of cancer among their 18,000 office employees ranging in ages from 18 to 85 years, which was 70 per cent below the expected mortalities from this disease in the general public. Of this the *Bulletin* says: "As the early detection of cancer and pre-cancerous conditions is all important for its successful treatment, the company's policy of annual physical examinations for its employees is of definite value in the prevention and treatment of this disease."

The study of cancer is attracting more attention than ever before in the history of medicine. Clinics for its diagnosis and treatment are springing up in every section of the country. Most of them are located in general hospitals where those members of the staff interested in this work can confer with their associates to the benefit of the patient and their own edification.

We feel a pardonable pride in the fact that the American College of Surgeons has fully approved eight of Georgia's cancer clinics, and several others are on the way to receiving full approval. The weekly conferences held at these clinics are great educational events for doctors within their sphere of influence. The attendance and the interest are increasing and will, as the years go by, add much to the solution of the cancer problem.

It is clearly the function of our medical schools to furnish facilities for the study of cancer. It is the duty of the coming generations of physicians to equip themselves mentally for the proper diagnosis and treatment of this disease. They may not be in position to apply all forms of treatment, but by aligning themselves with well-qualified and well-equipped groups they will render splendid service to humanity.

The Cancer Commission of the Medical Association of Georgia urges all physicians to attend a conference meeting of one of these clinics at every possible opportunity.

J. L. CAMPBELL, M.D.

THE CONTROL OF HEMORRHAGE

Hemorrhage is frequently met with, and is distressing to both patients and physicians. Sudden hemorrhage from the nose, uterus, rectum or some wound, such as a tonsillar fossa following the removal of the tonsils, is a common occurrence. To these may be added that group classed as bleeders—people who bleed on the slightest provocation.

Medical science has long hoped for something that would prevent and control hemorrhage. During 1939 Steinberg and Brown,¹ and Ivy,² reported that when *oxalic acid*, three milligrams in two cubic centimeters of distilled water, was injected intravenously it would control hemorrhage at once. Its most dramatic effect has been noted in patients with hemorrhage from the nose, or from a tonsillar fossa following the removal of the tonsils. The treatment has proved to be of value to patients with hemophilia, and has been helpful to patients with hemorrhage from the uterus, stomach, rectum and urinary bladder.

Numerous Georgia physicians have used this new hemostatic agent and have found its action specific and valuable beyond that of any other drug recommended for the control of hemorrhage.

JACK C. NORRIS, M.D.

¹ and ². American Professional Pharmacist, July 1939, Vol. V.

NINETY-FIRST ANNUAL SESSION OF THE ASSOCIATION

The program for the Ninety-first Annual Session of the Medical Association of Georgia has been completed.

Facts to be remembered are:

1. The annual session will be held at the Hotel DeSoto, Savannah, April 23-26.

2. Hotel reservations should be made now.

3. The Woman's Auxiliary to the Association will meet at the same place and at the same time, therefore the wives of members should be included when plans are made to attend the annual session.

4. The House of Delegates will meet at the Hotel DeSoto at 2 o'clock in the afternoon, April 23. County medical societies should prepare two typewritten copies of any material dealing with problems which they desire to present to the House, through their duly authorized delegate or delegates.

5. The Council will meet at the Hotel DeSoto at 6:30 o'clock in the evening, April 23. All proposals to the Council should be typewritten and presented by a duly authorized delegate.

FULTON COUNTY MEDICAL SOCIETY PLANS NEW HOME

The Fulton County Medical Society has taken another step forward. The Society has acquired a large lot at West Peachtree and Seventh Streets, Atlanta, on which it will build a new Academy of Medicine to accommodate its large family, now numbering five hundred eighteen members.

Organized in 1855 by less than twenty Fulton County physicians, the Society has kept pace with other activities in the "Gate City of the South" and is today the largest county medical society in the Southeast. However, the Society never owned a home until 1922, when it purchased an old residence and converted it into a makeshift place to meet. This building proved to be a real home notwithstanding all of its shortcomings, and has led to numerous improvements in the Society's activities. Indeed, the majority of the members of the organization now believe that a home is an important factor in the growth and development of any medical society. They are not only giving financial support to the building program but anticipate that the home being planned—with its assembly hall, library, offices, committee rooms and club rooms—will enhance further the fine spirit that exists in the Society.

Congratulations, Fulton County Medical Society. May your new building be a home in fact, where your members may continue the fine work which has made your organization an outstanding institution in Fulton County and the State of Georgia.

DECREASING OILINESS OF THE HAIR

It is impossible to reduce the amount of oil secreted by the sebaceous glands, *Hygeia, The Health Magazine*, says in reply to an inquiry on how to decrease oiliness of the hair. "The usual advice," according to *Hygeia*, "is to use one of the popular synthetic liquid soaps for shampoo, because they leave the hair drier than the other soaps made from fats and oils. The sebaceous glands are independent organs and their pattern of secretion varies with individuals, the same as any other organic function. During the fourth decade of life the sebaceous glands usually secrete less than before this time, but this is true of most of the secretory organs of the body.

"Shampooing the hair once every other week is a good average, but some excessively oily hair may be benefited by more frequent washings."

WOMAN'S AUXILIARY : OFFICERS 1939-1940

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MESSAGE ON RESEARCH

One of the most interesting and important phases in the work of the Woman's Auxiliary to the Medical Association of Georgia is that which is done by the chairmen of Research in Romance of Medicine. Mrs. C. M. Burpee, Augusta, State chairman, has written the following interesting message for county chairmen, urging their continued participation in this research.

"In the interest of this phase of history, please prepare a paper along these lines and mail a copy in duplicate for the State files. Any of these articles may be borrowed by county Auxiliaries to be used in programs or other educational work. Most of all, we wish to preserve for posterity records and events missed by the usual histories. Last year, as local chairman, I found pleasure in consulting older physicians, records and old newspaper files. You will find the language charming, the facts revealed fascinating and altogether you will want to continue your research, after your paper is in the State files.

"Suggestions for papers might be early medicine in your county, early physicians in your county, Indian medicine in your county, medicine at the time of the Spanish explorers (about 1532), medicine in colonial times, medical records obtained from non-medical sources (such as old cook books, family records), present-day history in the making, and local reaction to state medicine."

Auxiliary Organized

The Woman's Auxiliary to the Houston-Peach Counties Medical Society was recently organized at a meeting held in Perry. Officers elected to head the new group are: Mrs. R. L. Cater, Perry, president; Mrs. J. W. Story, Perry, vice president; Mrs. H. E. Evans, treasurer; and Mrs. J. L. Gallemore, secretary. Members will seek to have every eligible woman in the two counties join the Auxiliary, which has already begun the program of work as outlined for county groups by the Woman's Auxiliary to the Medical Association of Georgia.

Sixth District

Mrs. Y. H. Yarbrough, of Milledgeville, assumed the presidency of the Woman's Auxiliary

to the Sixth District Medical Society at a meeting held on December 6 at Hotel Dempsey in Macon. Other officers elected at this time were Mrs. Fred Rawlings, of Sandersville, president-elect, and Mrs. Harold Atkinson, of Macon, secretary-treasurer.

Mrs. W. W. Chrisman, Macon, who has served most capably as president, presided over the meeting, and Mrs. Rawlings, secretary-treasurer, gave her report. Dr. and Mrs. Raleigh Drake, of the Wesleyan Conservatory of Music, presented a beautiful musical program.

Dr. W. H. Myers, of Savannah, president of the Medical Association of Georgia, was to have made the principal address but was unable to attend. Mrs. Eustace Allen, Atlanta, president of the Woman's Auxiliary to the Medical Association of Georgia; Mrs. H. G. Banister, of Ila, president-elect; and Mrs. J. Harry Rogers, of Atlanta, State Press and Publicity chairman, made short talks.

Following the meeting, members of the Auxiliary joined members of the society for a beautifully appointed banquet in the mirror room of the Hotel Dempsey.

Fulton County

The Woman's Auxiliary to the Fulton County Medical Society held its December meeting at the Academy of Medicine in Atlanta, the president, Mrs. Forrest M. Barfield, presided. Dr. J. J. Clark gave an interesting talk on radiology.

Mrs. Olin S. Cofer, president-elect of the society, reported on the recent convention of the Woman's Auxiliary to the Southern Medical Association, stated that a member of the Fulton County group and the Georgia president, Mrs. Eustace Allen, was elected second vice president of the Southern Society.

Mrs. W. C. Waters reported on the recent fruit shower at Grady Hospital on Thanksgiving, and Mrs. A. O. Linch told of the work of the Red Cross committee. Mrs. Calvin Stewart, Ways and Means chairman, said the recent book review given by Mrs. Robert M. Church, Jr., was a financial success, and Mrs. Bolling Gay, Membership chairman, introduced new members. Later luncheon was served with Mrs. H. Cliff Sauls, chairman, and Mrs. J. R. Childs, co-chairman.

The January meeting of the Fulton county

group was held in the Sunday school room of All Saints' Episcopal church, which will be the meeting place in the future. Mrs. Barfield presided and Dr. C. E. Rushin, newly-installed president of the Fulton County Medical Society, brought greetings from the society. Dr. Champney Holmes made a most interesting talk on *What Price Tuberculosis?*

Reports of the work of their committees were given by Mrs. E. N. Schillinger, chairman of the sale of towels made by the blind; Mrs. J. Gaston Gay, chairman of House and Grounds; and Mrs. Sam Perry, chairman of Telephone. Later luncheon was served with Mrs. Eustace A. Allen and her committee in charge.

Bibb County

Mrs. Harold Atkinson gave an instructive review on *Rats, Lice and History*, by Hans Zinsser, at a recent meeting of the Woman's Auxiliary to the Bibb County Medical Society, held at the home of Mrs. T. E. Rogers in Macon, with Mrs. Willard Golsan as co-hostess. Mrs. Atkinson recommended the book not only for its informative value but because it is wise and humorous, written for lay readers. After the meeting, members enjoyed a social period. Mrs. J. L. King presided at the beautifully appointed tea table.

Barrow County

Mrs. R. P. Adams, Winder, was hostess to the Woman's Auxiliary to the Barrow County Medical Society at the December meeting at her home in Winder. Mrs. Ernest R. Harris had charge of the devotional, which consisted of prayer and the Christmas story, interspersed with Christmas carols. Mrs. W. T. Randolph, president, presided over the business session. Mrs. S. T. Ross, Program chairman, presented Mrs. Cleo Roberts, chairman of Christmas seals for the county, who told of what is being done in Barrow county for tuberculosis patients with the money derived from the sale of seals. Later a social period was enjoyed.

Georgia Medical Auxiliary

Mrs. Herrmann Lang was appointed chairman and Mrs. Shelton P. Sanford co-chairman for the annual convention of the Woman's Auxiliary to the Medical Association of Georgia, at a recent meeting of the Woman's Auxiliary to the Georgia Medical Society, which will be hostess to the convention in Savannah on April 23-26. The meeting was held at the home of Mrs. John Daniel, Jr., in Savannah. Mrs. Lehman W. Williams, president, presided. Mrs. William Myers, who was to have been convention chairman, will not be able to serve in this capacity.

A nominating committee, composed of Mrs. Lee Howard, chairman, Mesdames A. A. Morrison, Jr., E. C. Denmond, W. O. Beddingfield

and William R. Dancy, was appointed to present names of new officers at the next meeting. The report of the State President, Mrs. Eustace A. Allen, of Atlanta, recently presented at the meeting of the Woman's Auxiliary to the Southern Medical Association, and a message from Mrs. Ernest Corn, of Greenville, S. C., southern president, were read. A letter was read from Mrs. Harry Kandel, of Savannah, State chairman of Exhibits, urging the Auxiliary to prepare an exhibit for the State convention. A letter from Dr. Edgar Shanks, of Atlanta, secretary-treasurer of the Medical Association of Georgia, announced that the March issue of the MEDICAL JOURNAL would be a Savannah number in honor of the convention. Mrs. B. K. Milmore, a new Marine Hospital doctor's wife, and Mrs. Chaote, of Charleston, S. C., were visitors introduced.

Mrs. J. C. Metts, Program chairman, introduced Dr. C. C. Hedges, city and county health officer, who spoke on the work of the Federal Trade Commission and the Food and Drug Administration. Dr. Hedges told how these bodies safeguard public health by protecting the purchaser of remedies from fraudulent claims of manufacturers and how the commission controls advertising. He stated that one billion dollars a year is spent for self-medication, not purchased on prescriptions of physicians, and that while many remedies are harmless they are also useless. Referring to health and beauty aids, the speaker said not all the vast amount spent on these was ill spent, but most of it was wasted.

Later a social hour was held, with Mesdames Rufus Graham, J. S. Howkins, C. G. Redmond and John Daniel, Sr., joint hostesses.

Request for Archives

Mrs. J. Bonar White, chairman of Archives, issues the following request for data for the archives:

"Will members who have been officers or chairmen in the state and county Auxiliaries look in their files and if they have the following send them to the archives chairman at 769 Penn Avenue, N. E., Atlanta, Ga.?"

"Sheets of official stationery (blank or written) of years 1924-25, 1925-26, 1927-28 and 1930-31.

"Any circular letters of instruction sent to Auxiliary officers and chairmen, 1924-1931.

"Pages of Auxiliary news in the *Journal of the Medical Association of Georgia* from May, 1924, to June, 1935, and pages for October, 1935, and October and February, 1936.

"The health education (1937) and public relations (1938) instructions sent to counties or districts.

"If you have any of these, please send to me promptly and unfolded, if possible."

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

CHOLECYSTECTOMY FOR TYPHOID CARRIERS

Cholecystectomy has long been recognized as the only curative measure of any merit in the treatment of typhoid carriers. Oral and parenteral administration of drugs, dyes and vaccines have been uniformly unsuccessful. Deep x-ray therapy has likewise failed. Even cholecystectomy often fails, particularly in patients where the infection involves the common bile duct. Furthermore, this major operation is by no means devoid of danger, in that many gallbladder carriers are poor surgical risks.

During the past four years, five chronic typhoid carriers have submitted to cholecystectomy in Atlanta. A sixth patient recently operated on and still in the observation period will be referred to later. The following is a brief summary of these cases:

Cases 1 and 2:

In 1933 a milkborne typhoid fever outbreak in the West End section of Atlanta resulted in the discovery of two carriers in the same family—a dairyman and his wife. The husband gave a history of a severe attack of typhoid fever eighteen years prior to discovery. His wife nursed him throughout his long illness but denied having had typhoid. For many years, however, she had been suffering with gallbladder trouble. After resorting to a variety of attempts at cure with drugs, dyes and x-ray without effect, both consented to cholecystectomy. The gallbladders of both contained innumerable typhoid bacilli, as well as a number of stones. Within one week after the operation the husband's excreta became negative by culture. Thereafter 33 cultures distributed over a period of fifteen months were consistently negative. He was then released from further observation and allowed to resume his dairy business. It is of interest also that within six months after the operation he gained fifty pounds in weight and was greatly improved in general health. His wife made an uneventful recovery, but continued to excrete typhoid organisms intermittently for three weeks after operation. Thereafter 15 stool cultures, distributed over a period of seven months, were all negative. She too was then released from observation in June, 1936. The husband immediately resumed operation of his dairy, but to date no incidence of typhoid has been reported on his dairy route.

Case 3:

Early in March, 1939, an investigation by the Fulton County Health Department of a single case of typhoid occurring in a highly sanitized

residential section of Fulton County revealed that the cook was a carrier. This was a young Negro woman who denied having had typhoid fever, but stated that as a child she had nursed her mother who had a long illness with fever, presumably typhoid. When the possibility of cure by cholecystectomy was explained to her, she readily consented to the operation. Her gallbladder contained several stones and innumerable typhoid organisms. Stool cultures at weekly intervals were intermittently positive for a period of 44 days after operation. Thereafter all of 14 cultures over a period of three months were negative, and she was released from observation August 17, 1939.

Case 3-A:

The original victim of Case 3 was acutely ill with typhoid fever at the time the carrier was operated upon. This patient, a white female, aged 25, finally recovered, but continued to have recurrent attacks of cholecystitis. Her physician suspected a residual B. typhosus infection of the gallbladder, and after each attack her stools were cultured. Strange to say, eight stools submitted over a period of eight months were negative, but the ninth specimen showed large numbers of organisms. The patient was then subjected to cholecystectomy December 8, 1939. Her gallbladder showed a number of stones and innumerable typhoid bacilli. Here is an instance, therefore, of a chronic typhoid carrier produced by a chronic carrier, both coming to operation and both showing very similar gallbladder pathology. This experience also furnishes a remarkable example of intermittency of the carrier condition.

Case 4:

In May, 1939, an investigation by the City Health Department of a single case of typhoid in southeast Atlanta revealed a carrier in the person of the family cook, a Negro woman, aged 39. This woman had typhoid five years previously. She agreed to cholecystectomy and was operated on May 30, 1939. While no stones and very little evidence of pathology were found, the bile contained an estimated 70 million typhoid bacilli per cubic centimeter. Postoperative feces cultures were positive for 21 days. Six cultures made during the ensuing two months were uniformly negative. She is still under observation at this writing.

Case 5:

In May, 1939, a small child in College Park, Georgia, developed typhoid fever. The Fulton County Health Department investigated and found the family cook, a young Negro woman,

to be a carrier. This woman denied having typhoid fever, but gave a history of an acute attack of fever diagnosed as malaria in 1928. She submitted to cholecystectomy October 10, 1939. A medium size stone was found. Bile from the bladder upon culture showed approximately 50 million typhoid bacilli per cubic centimeter. Her recovery was uneventful. No post-operative specimens were obtained until after she had returned to her home. Stool cultures dated November 6, 7 and 13, were negative. This woman is still under observation.

Discussion

Due to limitation of space, much detailed information regarding these cases has been omitted. The operating in all five patients was done by the same surgeon. The bacteriologic studies were made by the Georgia Department of Public Health Laboratories.

Patients 1, 2 and 3 are considered apparently cured in that a large series of stool cultures over a period of not less than six months proved consistently negative. However, such evidence of cure cannot be regarded as conclusive proof. In Case 3-A, for example, eight negative stools over a period of six months, followed by a frankly positive finding, reveals the possibility of long periods of remission in the excretion of organisms.

Cases 4 and 5 are still under observation, but a sufficient number of negative stool cultures have been obtained to warrant a hopeful prognosis.

Cholecystectomy is perhaps too drastic a procedure to play a very important role in the public health control of typhoid fever. Nevertheless, from the standpoint of the individual carrier, who is faced with a lifelong stigma as a public health menace, it does offer the only avenue of escape so far known to medical science.

T. F. SELLERS, M. D.,

Director of Laboratories,

Georgia State Department of Health.

1940 PROGRAM

BIRMINGHAM ASSEMBLY OF THE SOUTH-EASTERN SURGICAL CONGRESS

MARCH 11, 12, 13, 1940

GYNECOLOGY

Dr. Quitman U. Newell, St. Louis, "Common Lesions of the Vulva, and Their Treatment."

Dr. C. J. Andrews, Norfolk, "Pelvic Supports—Their Injury and Repair."

Dr. Robert A. Ross, Durham, "Sex Endocrinology and Pelvic Surgery."

LARYNGOLOGY

Dr. Edward A. Looper, Baltimore, "The Diagnosis and Surgical Treatment of Carcinoma of the Larynx."

OTOLOGY

Dr. S. S. Hall, Clarksburg, W. Va., "Chronic Exudative Sclerosing Mastoiditis."

OPHTHALMOLOGY

Dr. R. O. Rychener, Memphis, "A Simple Technic for Glass Ball Implantation Following Enucleation of the Eye Ball."

MEDICINE

Dr. T. Z. Cason, Jacksonville, "Medical Conditions Simulating Acute Surgical Conditions—Differential Diagnosis."

Dr. K. K. Sherwood, Seattle, "Classification and Treatment of Chronic Arthritis."

PROCTOLOGY

Dr. Martin S. Kleckner, Allentown, Pa., "Interpretation of the Diarrheas Encountered in Proctologic Practice."

Dr. Louis A. Buie, Rochester, "Management of Anal Fistulas in Office and Hospital."

ANESTHESIA

Dr. C. N. Caraway, Birmingham, "Pentothal Sodium Oxygen Anesthesia."

Dr. Francis M. Massie, Lexington, Ky., "Amebic Colitis as a Cause of Abdominal Pain."

Dr. James K. McGregor, Hamilton, Canada, "Dysfunction of the Thyroid Gland as a Cause for Premature Old Age."

SURGERY

Dr. Herbert Acuff, Knoxville, "The Surgical Treatment of Pulmonary Tuberculosis With a Survey of End Results."

Dr. Russell B. Bailey, Wheeling, W. Va., "Surgical Treatment of Obstruction at the Cardiac Orifice."

Dr. Randolph L. Clark, Jackson, Miss., "Recent Advances in the Management of Intestinal Obstruction."

Dr. George Curtis, Columbus, Ohio, "The Rationale of Splenectomy in the Treatment of Certain Anemias."

Dr. T. C. Davison, Atlanta, "Breast Tumors." Moving picture in color.

Dr. Michael de Bakey, New Orleans, "Significant Factors in the Prognosis and Mortality of Perforated Ulcer."

Dr. Jas. W. Gibbon, Charlotte, "Gastro-Jejunal Ulcer with Case Reports."

Dr. Stuart W. Harrington, Rochester, Minn., "Surgical Treatment for Calcified Constricting Pericardium."

Dr. Frank S. Johns, Richmond, "The Progress in the Development of Extrapleural Thoracoplasty in the Treatment of Pulmonary Tuberculosis."

Dr. J. B. Lukins, Louisville, "Postoperative Pulmonary Complications."

Dr. J. M. Mason, Birmingham, "C. Jeff Miller Memorial Lecture."

Dr. Roy B. McClure, Detroit, "The Modern Treatment of Burns."

Dr. George Pack, New York City, "The Diagnosis and Treatment of Malignant Tumors of the Skin."

Dr. Edwin G. Ramsdell, New York City, "The Prevention of Wound Disruption."

Dr. J. D. Rives, New Orleans, "The Splenic Anemias: Present Conception of the Etiology, Diagnosis and Treatment. With Some Suggestions on Surgical Technique."

Dr. R. L. Sanders, Memphis, Presidential Address.

GENITO-URINARY SURGERY

Dr. Edgar G. Ballenger, Atlanta, "The Importance of Early Diagnosis of Genito-Urinary Diseases."

Dr. Nelse F. Ockerblad, Kansas City, Mo., "The Relationship Between Unilateral Kidney Disease and Hypertension."

Dr. Lawrence P. Thackston, Orangeburg, "Suprapubic Prostatectomy With the Use of an Original Combination Hemostatic Drainage Bag."

ORTHOPEDIC SURGERY

Dr. Austin T. Moore, Columbia, "The Treatment of Fractures of the Neck of the Femur by Internal Fixation With Four Adjustable Nails—an End Result Study."

Dr. Leslie V. Rush, Meridian, "Some Commonly Seen Fracture Cases in Which Bad Results Frequently Occur."

PEDIATRIC SURGERY

Dr. Stanley J. Seeger, Milwaukee, "Problems Presented by Jaundice in Infancy and Childhood."

NEURO-SURGERY

Dr. Cobb Pilcher, Nashville, "Surgical Aspects of Epilepsy."

Dr. Exum Walker, Atlanta, "Various Pathologic Conditions Causing the Sciatic Syndrome."

COUNTIES REPORTING FOR 1940

Baldwin County Medical Society

The Baldwin County Medical Society announces the following officers for 1940:

President—T. C. Clodfelter, Milledgeville.
Vice President—H. W. Long, Milledgeville.
Secretary-Treasurer—J. R. S. Mays, Milledgeville.
Delegate—J. R. S. Mays, Milledgeville.

Bulloch-Candler-Evans Counties

The Bulloch-Candler-Evans Counties Medical Society announces the following officers for 1940:

President—W. E. Simmons, Metter.
Vice President—A. B. Daniel, Claxton.
Secretary-Treasurer—John Mooney, Jr., Statesboro.
Delegate—R. L. Conc, Statesboro.
Alternate Delegate—A. J. Mooney, Sr., Statesboro.

Coffee County Medical Society

The Coffee County Medical Society announces the following officers for 1940:

President—T. H. Johnston, Douglas.
Vice President—David Goldman, Broxton.
Secretary-Treasurer—Roy L. Johnson, Douglas.
Delegate—Sage Harper, Ambrose.
Alternate Delegate—J. G. Crovatt, Nicholls.

Fulton County Medical Society

The Fulton County Medical Society announces the following officers for 1940:

President—Chas. E. Rushin, Atlanta.
President-Elect—Howard Hailey, Atlanta.
Vice President—Sam W. Perry, Atlanta.
Secretary-Treasurer—J. G. McDaniel, Atlanta.
Delegate—Chas. E. Rushin, Atlanta.
Delegate—C. C. Aven, Atlanta.
Delegate—B. Russell Burke, Atlanta.
Delegate—W. S. Dorrough, Atlanta.
Delegate—D. Henry Poer, Atlanta.
Delegate—Howard Hailey, Atlanta.
Delegate—H. C. Sauls, Atlanta.
Delegate—S. T. Brown, Atlanta.
Delegate—W. E. Person, Atlanta.

Alternate Delegate—Avery M. Dimmock, Atlanta.
Alternate Delegate—Mark S. Dougherty, Atlanta.
Alternate Delegate—John B. Fitts, Atlanta.
Alternate Delegate—Geo. F. Eubanks, Atlanta.
Alternate Delegate—A. Worth Hobby, Atlanta.
Alternate Delegate—Jas. J. Clark, Atlanta.
Alternate Delegate—Geo. W. Fuller, Atlanta.
Alternate Delegate—L. Minor Blackford, Atlanta.
Alternate Delegate—Sterling Claiborne, Atlanta.

Richmond County Medical Society

The Richmond County Medical Society announces the following officers for 1940:

President—J. D. Gray, Augusta.
Vice President—J. H. Sherman, Augusta.
Secretary-Treasurer—H. P. Harrell, Augusta.
Delegate—R. C. McGahee, Augusta.
Delegate—J. H. Sherman, Augusta.
Alternate Delegate—S. J. Lewis, Augusta.
Alternate Delegate—J. Victor Roule, Augusta.

Meriwether County Medical Society

The Meriwether County Medical Society announces the following officers for 1940:

President—W. P. Allen, Woodbury.
Vice President—J. A. Johnson, Manchester.
Secretary-Treasurer—R. B. Gilbert, Greenville.
Delegate—T. W. Jackson, Manchester.
Alternate Delegate—R. B. Gilbert, Greenville.

Wilcox County Medical Society

The Wilcox County Medical Society announces the following officers for 1940:

President—L. A. Williams, Abbeville.
Vice President—S. B. Ellis, Pitts.
Secretary-Treasurer—J. D. Owens, Rochelle.
Delegate—J. D. Owens, Rochelle.

Tattnall County Medical Society

The Tattnall County Medical Society announces the following officers for 1940:

President—L. V. Strickland, Cobbtown.
Vice President—C. B. Walling, Collins.
Secretary-Treasurer—J. M. Hughes, Glennville.
Delegate—A. C. Branch, Glennville.
Alternate Delegate—L. R. Jelks, Reidsville.

Ocmulgee Medical Society

(Bleckley-Dodge-Pulaski Counties)

The Ocmulgee Medical Society announces the following officers for 1940:

President—H. T. Adkins, Cochran.
Vice President—F. P. Holder, Eastman.
Secretary-Treasurer—I. J. Parkerson, Eastman.
Delegate—A. R. Bush, Hawkinsville.
Alternate Delegate—H. M. Tolleson, Eastman.

Randolph County Medical Society

The Randolph County Medical Society announces the following officers for 1940:

President—W. W. Crook, Cuthbert.
Vice President—F. M. Martin, Shellman.
Secretary-Treasurer—W. G. Elliott, Cuthbert.
Delegate—Loren Gary, Jr., Shellman.

NEWS ITEMS

DR. V. P. SYDENSTRICKER, Professor of Medicine at the University of Georgia School of Medicine, Augusta, has recently been awarded a grant of \$6,000 by the Markle Foundation, for the continuation of his studies on pellagra. In the course of the spring Dr. Sydenstricker will present papers on: *Acute Deficiency Syndromes* at the Johns Hopkins Medical and Surgical Association, Baltimore, on February 23rd; *The Present Status of Nicotinic Acid*, at the Federation of American Societies for Experimental Biology, at New Orleans, March 15th; *The Clinical Manifestations of Nicotinic Acid and Riboflavine Deficiency* (Clinical Lecture), at the American College of Physicians, Cleveland, on April 1st; *The Relation of Gastrointestinal Disease to Avitaminosis*, at the New York Chapter of the American Gastroenterological Association at New York on April 15th, and *Multiple Deficiency Features of Pellagra*, at the 8th Pan-American Scientific Congress at Washington on May 10th.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on January 23. Dr. S. P. Sanford read a paper entitled, *Coronary Disease*; discussed by Dr. J. C. Metts and Dr. J. R. Broderick. Dr. T. J. Charlton reported a case *Progressive Muscular Dystrophy-Presented Patient*.

DR. T. C. DAVISON, Atlanta, will read a paper on surgery before the eleventh annual session of the Southeastern Surgical Congress at Birmingham, Alabama, March 11-13.

THE REGISTERED HOSPITALS in Georgia which have not been reported to the American Medical Association for the Annual Census of Hospitals should do so immediately. All names of registered hospitals should appear in the Hospital Number and the new American Medical Directory.

THE GEORGIA BAPTIST HOSPITAL (Atlanta) Commission held its annual staff banquet on January 16. Dr. S. V. Sanford, Athens, chancellor of the University of Georgia, was the guest speaker.

DR. R. A. BARTHOLOMEW, Atlanta; Dr. R. B. Greenblatt, Augusta; and Dr. O. R. Thompson, Macon, appeared on the program at the annual meeting of the South Atlantic Association of Obstetricians and Gynecologists at Richmond, Virginia, February 9-10.

DR. BENJAMIN BASHINSKI, Macon, spoke before a meeting of the Woman's Auxiliary to the Bibb County Medical Society, January 9, on *How to Prevent Poliomyelitis*.

DR. CHAMP HOLMES, Atlanta, spoke on *What Price Tuberculosis* at a meeting of the Woman's Auxiliary to the Fulton County Medical Society, January 5.

DR. HAROLD C. ATKINSON, Macon, spoke at the graduating exercises of a class of nurses from the Macon

Hospital on January 8. Dr. Chas. L. Ridley delivered the diplomas. Dr. Milford Hatcher presided.

DR. JOHN T. PERSALL, McRAE, has resigned as camp surgeon for the CCC camps at Baxley and McRae to engage in private practice at McRae.

DR. J. M. TRIBBLE, Senoia, has just been re-elected mayor of Senoia for the fourth consecutive term.

DR. T. P. BULLARD, Palmetto, was recently elected mayor of Palmetto.

DOCTORS HOWARD AND HUGH HAILEY, Atlanta, were recipients of one of the annual awards by Dr. L. C. Fischer for the best original research during 1939 on *A Study of the Skin Disease Pemphigus*. Dr. D. HENRY POER, Atlanta, won a similar prize for the best written paper. A committee from the Fulton County Medical Society studies the reports and selects the winners.

THE COFFEE COUNTY MEDICAL SOCIETY met at the office of Dr. T. H. Clark, Douglas, January 3. Officers were elected for the ensuing year.

DR. HENRY FRECH, JR., Savannah, has been appointed assistant director of maternal hygiene at the Chatham-Savannah Health Department; Dr. Ruskin King, Savannah, was appointed assistant director of infant hygiene.

DR. H. A. BARRON, Thomaston, has assumed his duties as chairman of the Upson county board of commissioners.

DR. RUFUS EVANS, Decatur, DeKalb county commissioner of health, announces the opening of a free medical clinic for indigent people who could not otherwise have medical care. The clinic was made possible by gifts from the Woodruff Foundation, Whitehead Foundation and private subscriptions.

DR. JAMES E. PAULLIN, Dr. Edgar G. Ballenger, Dr. Frank K. Boland, Dr. R. H. Oppenheimer and Dr. N. M. Owensby, all of Atlanta, served as an Executive Committee on Arrangements for the third annual session of the Atlanta Graduate Assembly, January 15-18.

DR. WEBB CONN, Brunswick, will be in charge of a clinic for the treatment of the indigent sick in Glynn county. The Glynn County Medical Society in cooperation with the Glynn county board of health and Glynn county commissioners promoted the establishment of the clinic.

DR. HARRY B. BAXLEY and Dr. H. B. Jenkins will be in charge of Chason's Hospital, Donalsonville, since its change of ownership.

DR. H. G. WEAVER, Macon, has been elected a member of the Bibb county board of education.

DR. WM. R. DANCY, Savannah, past commander of the Sons of the Confederate Veterans, has been appointed surgeon on the staff.

THE FULTON COUNTY MEDICAL SOCIETY met at the Academy of Medicine, Atlanta, January 18. The scientific program consisted of a report of a case, *Atelectasis with Sodium Pentothal*, by Dr. Hayward S. Phillips; clinical talk, *Cysto-Urethrosopic Photography—Demonstration of Camera for Making Pictures through the Cystoscope, Colored Lantern Slides*, Doctors E. G. Ballenger, Harold P. McDonald and Reese C. Coleman, Jr.; paper, *Human Schistosomiasis (Human Blood Flukes) Illustrated with Photomicrograph Lantern Slides*, Doctors Charles E. Boynton and Charles E. Boynton, Jr.

THE FULTON COUNTY MEDICAL SOCIETY met at the Academy of Medicine, Atlanta, February 1. Dr. E. Van Buren reported a case of *Addison's Disease*; Dr. Marion T. Benson, Jr., made a clinical talk on *Follicule and Corpus Luteum Cyst of the Ovary*; Dr. Edward S. Wright read a paper entitled, *Acute Laryngotracheo Bronchitis—illustrated with a colored motion picture*. The paper was discussed by Dr. B. McH. Cline, Dr. B. Russell Burke and Dr. Wm. L. Funkhouser.

DR. W. C. HUMPHRIES, Acworth, has contributed about \$200 worth of surgical instruments to the American Bureau for Medical Aid to China.

DR. G. LOMBARD KELLY, Augusta, dean of the University of Georgia School of Medicine, has been re-elected for another year by the Board of Regents.

DR. C. P. SAVAGE, Montezuma, has just been installed president of the Montezuma Kiwanis Club.

DR. C. W. ROBERTS, Atlanta, attended the annual meeting of the Council on Industrial Health in Chicago, recently.

DR. WILLIAM D. WILSON announces the opening of an office at 319 Abercorn Street, Savannah, for the practice of general surgery.

THE GEORGIA SOCIAL HYGIENE COUNCIL announces that it will sponsor bills for *Premarital Examinations*, *Pregnancy Serological Tests*, and *Anti-Quackery*, when the General Assembly of Georgia again convenes.

DR. GEO. W. FULLER was appointed chief of the surgical service of the white division of Grady Hospital, Atlanta, effective January 1.

THE REGULAR STAFF MEETING OF THE CRAWFORD W. LONG MEMORIAL HOSPITAL, Atlanta, was held on February 8. Chairmen of the committees made their usual reports. Dr. E. G. Ballenger presented a case of *Carcinoma of the Bladder, Treated by the Transurethral Method*. Dr. E. A. Bancker and Dr. W. W. Daniel presented a patient for diagnosis.

OBITUARY

Dr. Julian Paul Harrell, Brunswick; member; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, Md., 1906; aged 59; died on December 27, 1939, after a short illness. He was a prominent physician and limited his practice to diseases of the eye, ear, nose and throat. Dr. Harrell was a member of the Rotary Club, Glynn County Medical Society, and the Baptist church. Surviving him are his widow, one daughter, Miss Laurence Harrell. Funeral services were conducted at the First Baptist church. Interment was in Brunswick cemetery.

Dr. Isadore J. Pass, Macon; member; University of Minnesota Medical School, Minneapolis, Minn., 1932; aged 31; died June 8, 1939, suddenly in an automobile accident. He interned at the University Hospital, Minneapolis, which consists of the Elliott Memorial Hospital, George Chase Christian Memorial Cancer Institute, Todd Memorial Eye, Ear, Nose and Throat Hospital, William Henry Eustis Children's Hospital. Dr. Pass had a pleasing personality and made friends easily. No one questioned his professional ability.

Dr. Charles W. Miller, Atlanta; Georgia College of Eclectic Medicine and Surgery, 1905; aged 68; died on January 6, 1940. He practiced for more than thirty years and was a member of the Joseph Greenfield Lodge, F. & A. M., and the Payne Memorial Methodist church. Surviving him are one brother, Clarence Miller, and one sister, Mrs. Harry King, both of Dayton, Tenn.

DR. JAMES WILSON COWART

RESOLUTION

Dr. James Wilson Cowart, Walden, died on October 11, 1939, of aplastic anemia. He was engaged in active practice until overcome by his last and fatal illness. He was born in Houston County (now a part of Bibb County), May 29, 1871. After he graduated at Tulane University of Louisiana School of Medicine, New Orleans, in 1894, he returned to his home county and began the practice of medicine. Dr. Cowart was Bibb county physician for ten years and served on the local board of medical examiners during the World War, and was Worshipful Master of Walden Lodge of F. & A. M. for ten years, was a loyal member and steward of the Methodist church.

It was our pleasure to know Dr. Cowart intimately and to testify to his worthy traits and sterling character. He was a loyal friend and a man of unquestionable integrity, devoted to his family and conscious of his obligations to his patients.

Be it Resolved, That a copy of this resolution be spread on the minutes of the Bibb County Medical Society, and a copy be mailed to his family.

JAS. A. FOUNTAIN, M. D.

A. R. ROZAR, M. D.

W. A. WILLIAMS, M. D.

Committee, Bibb County Medical Society.

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REGION II OF THE AMERICAN ACADEMY OF PEDIATRICS

ANNUAL MEETING

The annual meeting of Region II of the American Academy of Pediatrics will be held at the Edgewater Gulf Hotel, at Edgewater Park, Mississippi, on Friday and Saturday, March 15 and 16, 1940.

Edgewater Park is located between Biloxi and Gulfport, in the very center of what has been properly spoken of as the Riviera of America. It is on the main line of the Louisville and Nashville Railroad and on the famous Old Spanish Trail (U. S. Route 90), which connects Florida with California. Edgewater Park is a semi-tropical, winter pleasure community overlooking the Gulf of Mexico, with more than 300 acres of its own premises devoted to outdoor recreation.

An extraordinarily interesting program has been prepared for the scientific session and in addition to clinical papers, a wide variety of roundtable and panel discussions have been planned. Opportunity will likewise be afforded for a delightful recreation on the Gulf Coast during its most attractive season.

In spite of the high quality of service for which the Edgewater Gulf Hotel is famed, the following moderate rates have been quoted for this meeting: \$6.50 and \$7.00 single, \$6.00 and \$6.50 each person in double rooms, daily, American plan.

Region II of the Academy of Pediatrics comprises the southern states from Virginia to Texas, and a cordial invitation is extended to any physician to attend this meeting.

It is suggested that reservations be made immediately by writing directly to the hotel.

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EARLY MEDICAL HISTORY OF GEORGIA

Georgia As a Colony

J. CALVIN WEAVER, M.D.
Atlanta

History, like a landscape, must be viewed from a distance. It is distance that lends perspective. For a correct impression, not only the high peaks, but also the foothills and the valleys must be shown, as well as a background, lest we strain our minds' eyes for the details. This applies to medical history as well, particularly the colorful history of Georgia medicine. For a correct evaluation of the progress and development during the two hundred year stretch since its foundation, not only the shining lights who have climbed the highest peaks must be pictured, but those who have remained in the foothills, as well as those who either by force of circumstances, or choice, have been contented to linger in the valleys below.

For a more accurate understanding of developments later, the background which will reveal political, economic, military and even religious influences which brought about the genesis of Georgia with the different nationalities of immigrants, their home environments, and their political and religious beliefs, must be depicted. Each had either a helpful or harmful bearing on future developments. Though a small percentage of disgruntled souls crept in to retard progress and create dissatisfaction, the great majority came with a determined spirit of cooperation toward improving conditions that had grown intolerable back home.

It seems well established that the chief and controlling purpose for the founding of Georgia as a colony was a military one,

though Oglethorpe has been described by some imaginative historian as a "Paladin of Philanthropy."

"Colonies for the exercise of benevolence were unknown to the statesmanship of that or any other age, but colonies for military purposes were as old as civilization itself."¹ Georgia was to be no exception. so with the war with the Spaniards in Florida, the Indian wars, the Revolutionary War and the War of 1812, the medical history of early Georgia days will savor strongly of the military.

On account of that most oppressive law in England by which a man might be imprisoned for debt, and kept there until the debt was paid, the prisons were overflowing with debtors. In 1732 a charter was granted to twenty-one trustees, noblemen and gentlemen of England, to establish a colony to be called Georgia, a place of refuge for the insolvent debtors of Great Britain, and distressed Protestants on the Continent. Ostensibly philanthropy dominated the movement, but it is rather significant that General Oglethorpe, despite numerous donations toward helping the new colony, and thousands of applications from would-be emigrants, chose only the better class of debtors, only thirty-five families being represented in the first shipload of emigrants to accompany him on his first voyage to Georgia. These were the only debtors brought over. Of these a few were Piedmontese silk workers, the remainder being solid substantial Englishmen capable and suitable for defense purposes. It is also significant that as a location for the new colony, a narrow strip between the Savannah and Altamaha rivers along the southern frontier of South Carolina was chosen, which when developed would be a natural defense against the forays of the Indians and Spaniards into South Carolina.

Though the area allotted was wild

enough, it was not entirely the jungle that many seem to think. DeSoto had already made his march through this region, and for many years thousands of Indians had inhabited this territory.

The State of Georgia² was crossed from east to west by three old and well-established roads leading to the populous Creek country in west Georgia and Alabama. One of these roads led from Augusta by way of Ocmulgee to the present site of Birmingham. This was known as the Lower Creek Trading Path. Another road led almost parallel across the State some distance north of the Lower Path and was called the Middle Creek Path. The upper, or Old Creek Path, led from the headwaters of the Savannah by way of Pine Log to Fort Strother on the Coosa. A road leading from Nashville by way of Chattanooga to Augusta, thence to Savannah and on to St. Augustine was known as the Cisca-St. Augustine Trail. An important road was the trail from Tugaloo Town southward to Apalachee Bay. Another road from Augusta led to Fort Apalachicola and thence by way of Mobile to Natchez and Presido on the Rio Grande.

Indian roads, like animal trails, sought out mountain passes, fords across streams, springs for camping sites, and were used by trading expeditions in times of peace and by war parties in times of war.

A network of trails connected neighboring villages, and great trunk lines stretched away to homes of distant tribes. In mountainous and wooded regions Indians were forced to travel in single file and therefore their trails were narrow, often less than two feet wide.

To the few silk workers, and the sturdy Englishmen, were later added the Salzburger, who had embraced the doctrines of the Reformation as taught by Martin Luther, and who were driven away by relentless religious persecution.

These Salzburger were descendants of the pious Vallunses, who for several centuries suffered persecution for conscience sake, and were driven from the beautiful valleys of the Swiss Alps, and almost exterminated before finding a resting place

in the secluded valley of the Salza on the borders of the Tyrol.

The invitation of the Trustees for fifty families of Salzburger to remove to Georgia was gladly accepted by a little band of refugees in the village of Berchtoldsgaden. Their courage in bearing the scoffs of their enemies on their long journey to Rotterdam, their patience in their wait at Dover, their fortitude in withstanding the long ocean voyage of one hundred four days on their way to Charleston, were elements destined to help form the substantial background for a later Georgia.

The other German settlers, the Moravians, on account of leaving Georgia in keeping with their religious faith which interdicted their taking up arms in any cause, did not make a lasting impression upon the character of Georgians.

Another nationality destined to wield a great influence was the group of Scotch Highlanders, well drilled soldiers calculated to defend South Carolina and the new colony from the Spaniards.

Shortly after Oglethorpe's first landing, there came forty Jews, who brought with them their own physician, Dr. Nunez, probably the most active and the best educated of the early doctors. Despite formal protests against their locating here, Oglethorpe's foresight prevented the loss of this element that took a prominent part in the development of the new colony.

Later, the Puritans, Quakers, Cavaliers and Huguenots of the other colonies began to pour into the new colony, and the combination formed the background or foundation on which was built the structure which grew to be the Empire State of the South.

From these nationalities our local smelting pot turned out such medical names as Noble Wymberly Jones, Samuel Nunez Ribiero, Dr. Twiffler, Thos. Hawkins, Wm. Bowler, Dr. Hunter. Nathan Brownson. Henry Bourquin, Wm. B. Stevens, Samuel J. Axon, David Brydie, Lyman Hall, John Irvin, George Wells and numerous others who lived in a period "when death was in almost every bush and every thicket concealed an ambuscade."

From a civil point of view, there were three important and distinct eras before organized medicine began in this State: first, Georgia as a colony; second, as a Province; and third, as a State.

By a colony is meant a body of people planted by some government on foreign soil with no power to govern themselves. A province is a district in which the people have a government provided for them by the power to which they are subject, and they enjoy certain rights and privileges. A state is the whole body of people united for the purpose of self government and not in any way subject to any outside power. It can thus be seen that there was a close interrelationship between medicine and the existing civil government, so for sake of convenience, early medicine in Georgia will be divided into the above three main eras.

Probably the earliest date when medical care for the Georgia colonists assumed definite shape was when Mr. Cox, surgeon, at a meeting of the Trustees, November 1732, at Palace Court, London, offered his professional services to the emigrants for one year without "fee or reward," the sole condition being that a house be built for him and his land tilled like the others by joint labor. A resolution was passed to buy him a set of instruments and a chest of medicine, but for some reason this was later expunged from the minutes.³

Though no record is available to show that Mr. Cox, surgeon, came to Georgia, and though the early epitaphs of Savannah do not reveal his name, in all likelihood he did come and succumbed to some disease contracted soon after his arrival, as in July 1733, Garden 52E was allotted to Frances, relict of Dr. Wm. Cox.

Friends in England manifested much interest in the health of those who were to cast their lot in the new colony. The minutes of the meetings of the trustees at different dates show that casks of wine and packages of drugs with certain medicinal qualities, were left as gifts to be sent over for use of the colonists, among which were two barrels and three bottles containing twenty-three deer skin's weight of



JOHN CALVIN WEAVER, M.D., Atlanta
(1879—)

"Bears Oyl" and several parcels of sea rod, snake root, rattlesnake root, sassafras, China root, sumac and contra-yerva.⁴

GEORGIA AS A COLONY

On Nov. 17, 1732, Oglethorpe with his colony sailed from Gravesend bound for Georgia. There were about one hundred thirty souls on board, these comprising thirty-five families. Arriving off the coast of Charleston Jan. 13, 1733, the ship was sent to Beaufort while Oglethorpe sought out a site for the colony.

A month passed before a location could be decided upon and permission could be obtained from the old Indian Chief. Tomochichi, for the immigrants to take up abode near Yamacraw Bluff, the site of a trading post and village of a tribe of Yamacraw Indians under the above old chief, who not only gave permission for the location, but who, until his death, remained a friend and loyal ally of the colony, assisting it in many ways.

On Feb. 13, 1733, the colony left Beaufort for Savannah, landing the same after-

noon. On the bluff were a group of four large pine trees, and under these as many tents were placed for accommodation of the immigrants. Their first experience must have afforded an admixture of awe and surprise, for no sooner had their tents been pitched than the Indians came forward with their formal salutations.

"In front advanced, with antic dancings, the 'medicine man,' bearing in each hand a spreaded fan of white feathers, fastened to a rod hung from top to bottom with little bells; marching behind this jingling symbol of peace and friendship, came the king and queen, followed by about twenty others, making the air ring with their uncouth shouts. Approaching Oglethorpe, who walked out a few steps from his tent to meet them, the 'medicine man' came forward with his fans, declaiming the while the deeds of their ancestors, and stroked him on every side with the emblem of amity."⁵

This was a practical illustration of the high esteem in which the "medicine man" was held by the savages. In all movements of importance he had to be consulted, and war, even, could not be declared without his consent.

While the savages were led by their "medicine man" in demonstration of welcome, the colonists were also represented by their medical representative, the first M.D. to land on Georgia's shore, that illustrious patriot whose name has gathered lustre with the passing years, Noble Jones.

In locating a site for the immigrants, his opinion was no doubt sought, for the health of the new comers was an uppermost thought in Oglethorpe's mind. Early after his arrival he wrote to the Trustees about the location of Savannah, as follows:

"Our people are all in perfect health. I chose the situation for the town upon high ground, forty feet perpendicular above high water mark; the soil dry and sandy; the water of the river fresh and springs coming out of the hill. I pitched upon this place not only for the pleasantness of the situation, but because, from the above mentioned, and other signs, I thought it healthy."⁶ From the very beginning the colony was never without intelligent medical attention.

Besides the fact that General Oglethorpe had a great deal of practical knowledge regarding nursing and home treatments, and attended the sick in person, it is a well established fact his friend, Colonel Noble Jones, who came with him, was a graduate in medicine, having an M.D. degree.⁷ He hailed from Lambeth County, Surry, England, and seemed to prefer politics to medicine. Many positions of honor were bestowed upon him, among which were member of the King's Council, one of the assistants to Patrick Graham, President of the Colony, and Treasurer of the Province and Military Commander. He was the first Judge of the General Court under Gov. Reynolds, some twenty years later. Four years prior to this appointment he was allotted 500 acres of land by the court of the President.

In the "Early Epitaphs in Georgia" is found the following, which outlines his official life in a most condensed way:

DR. NOBLE JONES

Noble Jones, Esquire, of Wormsloe, Senior Judge of the General Court and acting Chief Justice of the Province of Georgia. For twenty-one years member and sometimes President of his Majesty's Council, Colonel of the First Georgia Regiment, died Nov. 2, 1775, aged seventy-three.

Among the heroic dead removed from Colonial Cemetery to Bonaventure, was Dr. Noble Jones, friend and co-worker with Oglethorpe in planting and protecting the colony of Georgia. To him was granted in 1733, Wormsloe, the first large plantation in the province, and it has ever since remained in the possession of his descendants. Here he built a fort and called it Fort Wymberly. It was placed in such a position as to command the inland passage from the Vernon to Wilmington River, and the channel still bears his name. This route was much used by Indians, outlaws and Spaniards when visiting the coast of South Carolina for purpose of plunder, and it was a dangerous and important post.

Capt. Jones, though he had taken his degree of M.D., had no time to practice his profession during these early days. He was assigned to the command of a scout and guard boat and company of marines.^{8, 9} He was considered to have married Miss Wymberly, of ancient family, and of this

issue there was a son, Dr. Noble Wymberly Jones. He studied medicine under his father, but there is no record of his having got an M.D. degree. A grandson, Dr. George Jones, was also guided by his medical inheritance and attained much prominence. More will be given about them in the later eras that are to be considered.

Among the first shipload of emigrants was Philip Thicknesse, the son of a clergyman, who first started out as an apothecary but soon entered the English army and served in the West Indies where he became Captain of the Marines. He led a colorful and adventurous life. He wrote numerous works, all of a rather eccentric type.^{11 12}

The first active practitioner to set foot on the soil of the new colony was Dr. Samuel Nunez Ribiero. An account of his experiences under the Inquisition at Lisbon, and his daring escape to London, as furnished Historian White, of Historical Collections of Georgia fame, by M. M. Noah, Esq., will bear quoting in full:¹³

Dr. Samuel Nunez, whose name belonged to a distinguished family in Lisbon, was a physician of eminence, and had an extensive practice even in times when the Jews of that city were under the surveillance of the Inquisition. Jealousy and rivalry, however, caused him to be denounced to that dreadful tribunal, and himself and family were arrested as heretics and thrown into the dungeons of the Inquisition.

At that period the Jews were not permitted openly to follow their religion; they had no synagogues or places of public worship, but assembled for devotional purposes in each other's homes, and their prayer-books were concealed in the seats of chairs, and opened by springs. It had long been observed that the families never ventured abroad on Friday evenings, being the evening of the Sabbath, and suspicions were awakened as to their real faith, although for form's sake they all attended mass. The familiars of the Inquisition, who were generally spies, were set to work to discover what their pursuits were on the Sabbath, and detecting them at prayers, seized their Hebrew prayer-books and threw them all into prison.

Dr. Nunez, who was a most popular and skillful man, was physician to the Grand Inquisitor, who was anxious to save him. He did all in his power to alleviate the

sufferings of his family; but one of them, Abby de Lyon, who died in Savannah, carried to her grave the marks of the ropes on her wrists when put to the question.

They remained for some time in prison, but as the medical services of Dr. Nunez were very much in demand in Lisbon, the ecclesiastical council, under the advice of the Grand Inquisitor, agreed to set him and his family at liberty, on condition that two officials of the Inquisition should reside constantly in the family to guard against their relapsing again into Judaism.

The doctor had a large and elegant mansion on the banks of the Tagus, and being a man of large fortune, he was in the habit of entertaining the principal families of Lisbon. On a pleasant summer day he invited a party to dinner; and among the guests was the captain of an English brigantine anchored at some distance in the river. While the company were amusing themselves on the lawn, the captain invited the family and part of the company to accompany him on board the brigantine and partake of a lunch prepared for the occasion. All the family, together with the spies of the Inquisition, and a portion of the guests, repaired on board the vessel; and while they were below in the cabin, enjoying the hospitality of the captain, the anchor was weighed, the sails unfurled, and the wind being fair the brigantine shot out of the Tagus, was soon at sea, and carried the whole party to England. It had been previously arranged between the doctor and the captain, who had agreed, for a thousand moidores in gold, to convey the family to England, and who were under the painful necessity of adopting this plan of escape to avoid detection. The ladies had secreted all their diamonds and jewels, which were quilted in their dresses, and the doctor having previously changed all his securities into gold, it was distributed among the gentlemen of the family and carried around them in leather belts. His house, plate, furniture, servants, equipage, and even the dinner cooked for the occasion, were all left, and were subsequently seized by the Inquisition and confiscated to the State.

On the arrival of Dr. Nunez and family in London, the settlement of Georgia, and

the fine climate and soil of the country were the subjects of much speculation. The celebrated John Wesley, and his brother, Charles, had resolved to embrace the occasion of visiting this El Dorado; and when the ship which conveyed Gov. Oglethorpe to that new settlement was about sailing, the doctor and his whole family embarked as passengers. Not one of them could speak the English language, and from them descended the families already named in the body of this work. After a few years, a number sailed from New York; and Zipra Nunez married the Rev. David Machado, minister of the Hebrew congregation of that city. Major Noah states that he remembers his great-grandmother, Zipra Nunez, as a very practical personage. She died at nearly ninety years of age. She was celebrated for her beauty and accomplishments. She spoke several languages, preserved to the last a beautiful set of teeth unimpaired, and was observed, whenever the clock struck, to repeat a silent prayer, which had some reference to her imprisonment in the Inquisition.

All members of the family were rigid in their attachment to the doctrine of their faith. Two of her brothers, who arrived in the same vessel from London, lie buried in the Jewish cemetery in Chatham Square, New York; and from them has sprung a long list of highly respectable descendants in Savannah, Charleston, Philadelphia and New York, all of them of the Hebrew persuasion at this day.¹⁴

On the 11th day of July, 1733, Dr. Nunez and his mother, Mrs. Nunez, Daniel, Moses and Sipia Nunez, and Shem Noah, their servant, arrived with a party of about forty Jews. While there was great objections on the part of the Trustees to the Jews locating in Georgia, and while they were writing Oglethorpe not to allow any allotment of land to them, Oglethorpe was writing a complimentary and praiseworthy report of Dr. Nunez's work among the colonists. Later the Trustees requested Oglethorpe to offer pay to that humane physician for medical services rendered by him. He not only rendered valuable medical service but also ran a small drug store

which must have been the first pharmacy in Georgia.

Dr. Nunez, despite his new surroundings, found the condition of those who were under the thumb of brief but tyrannic authority not unlike those from which he had tried to get away. "Israelite that he was, a gentleman of education, a humane and skillful physician, when notified that the benevolent effort to improve the condition of the settlers of Georgia did not extend to Jews and Roman Catholics, removed at once, 1740, with his family, to a more generous community. He made his home in Charleston, in the colony of South Carolina. Not many years later, the grand spirit of freedom that pervaded the land led to the declaration that our government was not a respecter of religious creeds, and that Jew and Gentile should find equal protection under its liberal institution."¹⁵ This declaration was too late so far as Dr. Nunez was concerned, for Georgia had lost to South Carolina one of her most valuable citizens.

The existing spirit which attracted Dr. Nunez to South Carolina must have prompted the following lines addressed later to the Editor of the Georgia Gazette, April 14, 1774:¹⁶

"The generous, open, scientific mind
Its true benevolence extends,
The wise respect alike all human kind
Stern foes to vice, to virtue steady friends,
Truly to grace the Carolinian name,
Let naught like envy influence your views,
Urbanity in every act proclaims
Whether to Indians, Georgians or to Jews."

Dr. Nunez must have died prior to 1800, for the records show that Mrs. Zipporah Jacobs, daughter of the late Dr. Nunez, died in Philadelphia Nov. 19, 1800, in her eighty-sixth year. As the daughter of Henry Close and Mrs. Close was the first white child born in Georgia, and as Philip Minis, the first male child, was born in 1734, in all likelihood Dr. Nunez attended both of these cases, he being the only available doctor at that time. A silver bowl and spoon were given Mrs. Close for the distinction of being the mother of the first white child born in the new colony.¹⁵ It is interesting to know that Henry Close sat on the first jury in Georgia.

Of the few remaining Jewish families, there was one member, Mr. Abraham de Lyon, who was the vigneron of the colony, and who introduced valuable foreign plants and drugs and labored assiduously to improve its horticulture.

With an eye for safety for the present and for beauty and comfort in the future, Oglethorpe set about to lay out Savannah with open squares, which are today covered with magnificent shade trees that stand as monuments to his good judgment. The open squares were left as a kind of kraal for cattle when the immigrants sought protection from the Indians by going into the town.

Near the town to the east was set aside a ten-acre tract as a Public Botanical Garden, no doubt cared for by Mr. Abraham de Lyon.

The situation was delightful, one-half of it being upon the top of a hill, the foot of which was washed by the Savannah River. Besides cross-walks of orange trees and mulberry trees, there was a variety of other trees, including bay, sassafras, evergreen, oak, pellitory, hickory, American ash and the laurel-tulip; as well as a collection of West India plants sent by Dr. Houston from the Spanish West Indies, where he was sent at the expense of a collection raised by the "curious physician," Sir Hans Sloan, to collect tropical and medicinal plants and send them to Georgia, where the climate was capable of making a garden which might contain all kinds of plants.¹⁶

It was more than a year before Savannah grew to be much of a village. In two years, up to the 9th of June, 1734, 493 persons had been sent over, 378 British and 45 foreign Protestants. The men numbered 196. In fifteen months about forty houses had been built, each being placed on a large lot. To protect the new town from incursions landward, Oglethorpe had stretched around it a heavy barrier of palisade; while to guard it seaward, on the east end of the bluff was a small battery of five cannon. On the northern end of the bluff, on the Savannah River, was the trading house already mentioned, also the Indian village, Yamacraw. Though there was an ample

storehouse for provisions sent by the trustees, the immigrants traded also at the Indian trading house for policy's sake.

In about a year's time new immigrants began to adopt the colony as their future home. On Mar. 12, 1734, forty Salzburgers with their families, numbering in all seventy-eight, exiled from their native country, Bavaria, after a most thrilling and tiresome sea voyage, sailed into the harbor at Savannah and were received with shouts of gladness and the utmost hospitalities of the colonists who had preceded them.

Mr. Balzius, in his Journal, March, 1734, says, "At the place of our landing almost all of the inhabitants of Savannah were gathered together. They fired off some cannon and cried 'Huzza.' A good dinner was prepared for us. We, the Commissary and Doctor Twiffler, our physician, were lodged at the house of the Rev. Mr. Quincy, the English missionary." So another physician was acquired by the new colony.

As the Salzburgers expressed a wish to be settled some distance from the sea, in a hilly country, with springs of water, a section that would resemble their native country as much as possible, Dr. Twiffler, their physician; Gen. Oglethorpe and several others, including some Indians, composing the Corps of Observation, went in search of a fit place that would be in keeping with their wishes. Some thirty miles inland travel led them to a location on the banks of a river of clear water, the sides high, the country of the neighborhood hilly, with the valleys of rich cane land, intermixed with little brooks and springs of water.

Dr. Twiffler's medical training, no doubt, lent considerable weight in the final choice of a location, for here was a wholesome water supply and suitable drainage conducive to good health. With this location agreed upon, Oglethorpe immediately marked out for them a town site which was named Ebenezer; or, "Stone of Help." This was in St. Matthew's Parish later, and subsequently Effingham County.¹⁷

The following February, 1735, a party of Moravians left London aboard their vessel "The Two Brothers" and disembarked at Savannah April 8, 1735, having been nine and a half weeks on shipboard.

In London new friends were springing up on every side. Among other things that had been contributed by way of an outfit for their needs in Georgia, one doctor helped them lay in a store of medicine; another gave some balsam, which was good for numberless external and internal ailments.

On the way over one Moravian was chosen as nurse of the company, but at least once he was incapacitated by sea sickness. Several of the Moravians were dangerously ill. Four of the Swiss immigrants died and were buried hastily without ceremony. Two Moravians were appointed nurses for the sick Swiss, and by use of the medicine provided by the Trustees, supplemented by unwearying personal attention, they were made as comfortable as possible.

About one week after their arrival,¹⁸ "either from the noon day heat, or other conditions to which they were not acclimated, Gotthard Demuth and George Haberland became seriously ill, causing Spangenberg, their leader, much anxiety, for he did not feel at liberty to send for a physician, as they could not afford to pay for medicine, so resort was had to bleeding—then an approved practice—and to such remedies as remained from their voyage. One of their number was fortunate enough to shoot a grouse, which gave them some much needed palatable meat and broth. Perhaps the most serious case was Gottfried Habericht's, who suffered for several days with fever resulting from a cut on his leg. Finally oak leaves were heated and bound about his limb which induced free perspiration and quickly relieved him so that he was able to return to work."

Ten Moravians constituted the "First Company" to be sent over. It is significant that each was not only a "good and true son of God, but a skillful workman as well."¹⁹ Though the Trustees directed the township for their use to be located near Fort Argyle on the north side of the Ogeechee River, it seems that the Moravians were unable to establish themselves on this tract, as one thing after another interfered, so the "Second Company," which arrived early in the following year found them still at Savannah.

The first Moravian to pass on in Georgia was Riedel, a mason. Some months after reaching the colony he was dangerously ill with fever, but passed the crisis successfully and recovered his full strength. He was one of the party who went to survey Zinzendorf's tract, but was taken sick again three days after the boat left Savannah and by the time they returned he was obliged to go to bed and soon became delirious. The other Moravians were greatly distressed, but could do nothing except nurse him carefully and pray for him earnestly. He cleared up of the delirium, but on account of his weakened condition died Sept. 30, 1735.²⁰

As they were robing Riedel for burial a young man came to the door and asked if he could not make them some pewter spoons. It developed that he was a native of Switzerland, the son of a physician, and after his father's death had sailed for Pennsylvania intending the practice of medicine. Fellow passengers, however, stole everything he had, books included, leaving him without funds for transportation even, so he was forced to sell his service for seven years as a redemptioner. After five years of service, being turned out by his master on account of illness, he was taken in by the Moravians, and John Regnier soon became an important personage in their community. Besides such service as mending clothing and shoes, he showed much aptitude for nursing, so Spangenberg put him in charge of several cases.

A man from a neighboring village sent word that he had severed an artery and could not check the bleeding and asked for help. Regnier went to him and was so successful in his treatment that in two weeks the man was entirely restored.

Someone discovered a poor Scotchman dying with dropsy, lying utterly neglected upon the floor of a miserable hut; he was also taken in and nursed until death ended his suffering.

The conditions in Georgia were so different from what they were accustomed to in Germany that it took them some time to adapt themselves and become really acclimated. All were sick in turn. As nearly all the medicine brought from Europe was

gone and as the available drugs in Savannah were expensive, together with limited knowledge of their use, they were forced to depend on careful nursing and simple remedies.

Turpentine could easily be secured from the pines. Spangenberg found an herb which he took to be camomile which had a satisfactory effect, and with the coming of cooler weather most of the party recovered their health. There was a great deal of sickness that summer. Several were seriously ill at various times.

Roscher was sick when he reached Savannah, with consumption it was supposed, but Regnier suspected that this was not all, and when Roscher died he secured permission to make an autopsy, in which he was assisted by John Wesley. The examination showed a large hematoma in the left wall of the abdomen, and other complications.²¹

This was undoubtedly the first autopsy performed in Georgia, by which the Swiss nurse's thirst for knowledge set an example which the medical fraternity of Georgia has been slow to emulate, much to its own detriment.

This autopsy was another incentive to John Wesley's growing interest in medicine, which finally culminated in his publication a few years later of his practical medical compend entitled "Primitive Physic," or an "Easy and Natural Method for Curing Most Diseases" (1747), as well as the several medical clinics he established in London.

In 1741, George Haberland died Sept. 30 from "flux," a prevalent disease from which almost all of the colonists suffered at one time or another.

Many suffered from swollen feet and nausea, which was attributed to the drinking water. On that account a kind of sassafras beer was made which proved palatable and healthful. This was used until they became acclimated, when they were able to drink the water.²²

The Moravians were willing to give up everything except religious liberty, but they were human enough to regret having to abandon the improvements they had made at the cost of so much labor and self de-

nial. As the Trustees shut the door in their faces, they finally left Georgia for other promising and more hospitable fields, and a valuable set of citizens was lost to the colony, as was the case when Dr. Nunez, his son, de Lyon, and de Lyon's wife, moved to Charleston, Aug. 31, 1740.

During the winter of 1739-40, John Regnier, who had been a constant source of comfort by acting as nurse and practical doctor for the Moravians, became deeply incensed at some remarks of Schulius and decided to leave immediately for Europe. He later returned to Pennsylvania where he joined the colony of Moravians, some of whom had migrated from Georgia.

John Michael Schober, who died Aug. 10, 1739, was the ninth to find his final resting place beside the Savannah River, most all of whom succumbed to some type of malignant fever attended with delirium.

The following February, George Whitefield, who had returned to Savannah for his second time, bought the Moravians' household furniture. Their town house was rented to some of Whitefield's followers for a hospital.

Soon after reaching Georgia, Whitefield started an Orphanage, with nearly 70 inmates. The hospital which was begun in the town house rented from the Moravians was placed in charge of Dr. Hunter, from Bristol, England, a pious surgeon who had accompanied Whitefield for "love's sake" from England.²³

One short paragraph from Whitefield's own "Account of the Orphanage in Georgia," tells the story of the first hospital and the first free clinic established in the colony:

"I chose to take over only a Surgeon and a few more of both sexes, that I thought would be useful in carrying on my Design. These cheerfully embarked with me, desiring nothing for their Pains but Food and Raiment. I likewise erected an Infirmary, in which sick people were cured and taken care of gratis. I have now by me a List of upwards of a hundred and thirty Patients, which were under the Surgeon's Hands, exclusive of my own private family. This Surgeon I furnished with all proper

Drugs and Utensils, which put me to no small expense."²⁴

Though the Salzburgers at Ebenezer had a small orphanage when Whitefield established Bethesda,²⁵ the first brick in the first hospital in Georgia was laid May 25, 1740. No doubt drugs were first manufactured here, as behind the main house is the infirmary and a *still* house for the *apothecary*.

Though an extensive correspondence with the librarian at Bristol, England, brought out the fact that William Hunter's name appears on the list of graduates of St. Andrews in 1728, further search revealed the fact that the Rev. George Whitefield, while in Bristol, formulating his plan for an orphanage near Savannah, which evolved into the Bethesda Orphanage, succeeded in interesting a young man who was both a physician and an apothecary in this scheme. This young man was Dr. Joseph Hunter, who arrived with Whitefield at Savannah in the fall of 1740. He first took his abode at the orphanage but later was appointed universal apothecary at Savannah to which place he moved. He succeeded Dr. Patrick Graham, who had given up entirely his practice as apothecary. After Graham retired Hunter settled in Savannah with his family, where he practiced with great success and was held in high esteem by the whole town and for many miles around.

Dr. and Mrs. Hunter adopted young William Wiley, aged 14, from Bethesda. In 1743 young William was accidentally shot while hunting, was attended by Dr. Hunter, who for a while thought the lad would not recover.

In view of his being a pious surgeon, an event giving insight to existing conditions was the fact that in August 1742 Jonathan Barber, the chaplain, and Dr. Hunter, the house surgeon, were arrested at Savannah and imprisoned for a week on charge of insulting two clergymen there in private conversation.²⁶ On July 28, 1743, Dr. Hunter was in consultation with a Dr. Watkins in Savannah.²⁷

During the first year of the founding of the Colony, General Oglethorpe's attention was directed to providing homes for the emigrants, also toward establishing simple

fortifications at Savannah, Josephtown, Abercorn and old Ebenezer, where treaties of cession and amity could be negotiated with the enemies.

In eighteen months little less than 500 emigrants had been sent over. The village of Abercorn had been established on a creek 3 miles from the Savannah River and 15 miles from Savannah. There were only ten families here. Ebenezer was a few miles further up on another tributary of the Savannah River. On Tybee Island, east of Savannah, and at the mouth of the river, was begun a large lighthouse to be 90 feet high, and the loftiest in America.

Four miles south from Savannah were two small villages: Hampstead and Highgate. East of them, upon Augustine Creek, a good timber fort had been built. Three families had been located at Thunderbolt, while directly south of Savannah, upon the banks of the Ogeechee, had been placed Fort Argyle, a small, square fortification of wood, musketproof, but having no cannon. This was garrisoned by a party of rangers and ten families.

Having accomplished this much, Oglethorpe made a return voyage to England with two purposes in view; one to enlarge the views and strengthen the friendship of the Indians, whose friendship had been courted from the beginning; the other, to obtain new emigrants to strengthen the protection of the southern part of Georgia. On this trip he took a party of ten Indians, headed by Tomochichi and his wife.

While Oglethorpe was in England, a memorial reached the Trustees from the province of South Carolina, setting forth the necessity of strengthening Georgia, so as to make a more efficient barrier between them and their Spanish enemies at the south.

Though 59 Salzburgers were on the "Prince of Wales," the ship on which Tomochichi and his party returned, reliance was placed in 110 Highlanders from Scotland, men of good character, and carefully selected for their military qualities.

Sailing from Inverness Oct. 18, 1735, commanded by one of their own countrymen, Capt. George Dunbar, they reached

Georgia in January, 1736. Immediately after their arrival, they proceeded southward to the Altamaha river, where they built the village of New Inverness, named in honor of the town they had left in Scotland. The name was later changed to Darien.²⁸

Besides this military band, other Scotchmen, among them the Mackays, the Dunbars, the Bailies and the Cuthberts, applied for large tracts of land. Along with the military band came the fighting McIntoshes of Georgia, from whom, no doubt, sprang Dr. John McIntosh, whose name looms up in the medical world several decades later.

The settlers were of a bold, hardy race. Brave by nature, virtuous by education, robust by martial exercise, inured to fatigue and willing to labor, they brought to Georgia the virtues of the Highlanders, who left an indelible imprint on the upbuilding of the State.

Early after their advent a passable road was begun from Savannah to New Inverness, this being the beginning of the road system of Georgia, which has turned out to be a veritable political football, which has made and ruined more political careers than any other organization in the State.

This was a great improvement over the previous conditions described by Bancroft as follows: "The boggy places" proved to be not quite impassable; two rivers that had no ford could be crossed by swimming, and the trees had been blazed all the way for a "horse road,"²⁹ a little intimation of the hardships to which the pioneer doctors were subjected.

A short time after the Highlanders sailed, two ships were chartered and Oglethorpe left with 231 persons in what was termed the great embarkation. On this voyage, John and Charles Wesley were fellow passengers with Oglethorpe. It was little thought then that ten years later this medical missionary would publish a practical little volume on home treatment that was destined to go through 32 English editions and 7 American editions. This now scarcely known volume was entitled "Primitive Physic, or An Easy and Natural Method for Curing Most Diseases." It seems the irony of fate that the volume which Wesley

considered the best of his many books is now almost forgotten.

Many doctors perhaps do not know that in 1747 Wesley published "Primitive Physic" which has been referred to by Dr. George Dock as "a strange combination of good sense and superstition."

At an early age, while an undergraduate at Oxford, Wesley's attention was drawn to medicine, so much so that his interest in the care of the body in health and disease was unremitting. This probably accounts for his helping John Regnier, the Swiss nurse, in the first autopsy held in the new Colony.

About a year before Wesley's book was published, with the assistance of an apothecary and a surgeon, he opened a dispensary in Bristol which was so successful that he followed it with others in New Castle and London, combined with arrangements for the free treatment of the sick in their homes.

Twenty-three editions of "Primitive Physic" appeared during Wesley's lifetime, nine other editions appearing later, the grand total of thirty-two editions bearing silent tribute to the practical usefulness of the book as a home medical compend. The preface suggests a trend towards Christian Science. "As man knew no sin, so he knew no pain, no sickness, weakness or bodily disorder." While, to the contrary, he says, "the seeds of wickedness and pain, of sickness and death, are lodged in our inmost substance; whence a thousand disorders continually spring even without the aid of external violence."

He was a bitter opponent of polypharmacy. "Experience shows that one thing will cure most diseases, at least as well as twenty put together. Then why add the other nineteen." He had great faith in Indian remedies, having learned much practical medicine from the Indians while a missionary in Georgia.

Wesley spoke enthusiastically of electricity, "which comes the nearest an universal medicine of any yet known in the world." This was little short of a prophecy. At the same time he spoke against the substitution evil, which was probably then worse than now. He was no collector of

recipes and had his own ideas on medical topics. For instance, to prevent catching infectious fevers he warned against breathing near the face of the sick. He held that madmen are all cowards and may be conquered by binding only, without beating, anticipating the reform of Dr. Pinel by fifty years. Nothing will be gained by reviewing the large number of formulas given. Many of his remedies are still in use today. That frequently quoted proverb, "Cleanliness is next to Godliness," was his.

Wesley fortunately adopted a habit of keeping a diary, using a small book, duodecimo in size, bound in leather and containing 168 pages. From this little golden treasure comes the information that he suffered considerable physical ailments of different types. "He was often attacked by ailments which ordinary mortals would have regarded as severe. Again and again he is seized with 'cholick.' The first registered attack was on May 5."³⁹ From these repeated attacks he probably had recurring attacks of gallstone colic. On one occasion he suffered an attack of "St. Anthony's Fire," which "smarted much." He was also attacked by shocking headaches, intermittent fever, violent and protracted nausea, dysentery and boils. He often had to take "physic" and was frequently "in pain" or sick.

Among many other interesting events in the colorful life of Wesley was the account told to him a couple of weeks after his arrival of the first suicide in the new colony:

The second Sunday in Savannah Charles and John Wesley set out of Skidaway to have communion at 3 p.m. There were about ten families there besides the garrison at the fort. After a pleasant journey on horseback they reached the home of Mr. DeLacy who told them the following story:

"Captain Wright brought a man to me and I bought him, paying as much as his passage was worth. The next day this man, named David Jones, told me his history.

"He was a saddler by trade, and meeting the Captain at Bristol the latter proposed that he go with him to Georgia, that the business of saddler flourished there, and he

would furnish him with tools and a shop, for which he could repay him at his own convenience.

"On reaching Savannah, instead of the shop and tools, he was told that as the ship would return to England in a few days, he must have his passage money at once. As he was unable to pay this he was sold. I, of course, knew nothing of the circumstances, as I bought just as the others do and the law seems to allow.

"He was a delicate looking man, but there was no work except to go into the forest with the servants.

"He had an intellectual face, and when resting from his work would sit under the oaks near the river bank and apparently watch the water.

"One day I sent him to my large plantation some four miles from here, but he did not return Saturday night with the other servants, sending word that he would go hunting. When they returned to their work Monday morning they found him on the shore with part of his head blown off, his gun at his side. In his pocket was a small paper book containing some poetry. Here it is, and you may keep it."

Mr. Wesley took the little worn book and read:

"Death could not a more sad retinue find—

Sickness and death before, and darkness all behind."³¹

Considering the fact that he did not pretend to any special knowledge, and the stupendous amount of ministerial work he did year after year of his long life—at 85 years delivering 80 sermons in eight weeks—he must be acknowledged the outstanding physician-minister of the early Georgia days.

The Wesley Memorial Hospital, of Atlanta, was opened in 1905. For seventeen years, through efficient service, it became enshrined in the hearts of many Georgians of various religious denominations. In 1922 it was moved to the campus of Emory University, where it was housed in a new million dollar edifice by that superman, Asa Griggs Candler, as a memorial to John Wesley and Methodism.

How unfortunate it seems that the name should have been changed, leaving nothing to show any connection either with the name that inspired it or with the name that made it possible.

The arrival of 110 Highlanders of Scotland and a little later the 210 emigrants comprising the "great embarkation" was of the greatest moment from a protective and a military point of view. Somewhat later the Trustees, moved by the indications of hostility on the part of the Spaniards, authorized a regiment to be raised to be sent to Georgia and that James Oglethorpe be appointed General of all forces in Carolina and Georgia. So carefully was this regiment recruited and officered, that it constituted one of the best military organizations in the service of the King.

On arrival these new recruits were transported to St. Simon's Island and the new fort at Frederica, the Highlanders being sent to New Inverness (now Darien).

A list of officers of this select body consisted of James Oglethorpe, Colonel of a regiment of foot, nineteen officers of different rank, and Thos. Hawkins, surgeon, the next doctor to be added to the colony.³²

Frederica was considered beyond question the healthiest of all the early settlements of Georgia. Lieutenant Dunbar made affidavit that despite exposures "the men are kept so healthy that often no man in the camp ailed in the least and none died except one man who came sick on board and never worked at all."

Oglethorpe's Home

At Frederica was located the only home in Georgia that Oglethorpe ever claimed or owned.³³ Just south of this town and within sight of the fort on the road leading to "Harrington Hall," the beautiful estate of Captain Raymond Demere, was located a tract of fifty acres which Oglethorpe reserved for himself. Just where the military road connecting Fort St. Simon with Frederica entered the woods, after traversing the beautiful prairie, Oglethorpe erected a two-story frame dwelling.

"Adjacent to it were a garden and an orchard of oranges, figs and grapes. Magnificent oaks threw their protecting shadows

above and around this quiet, pleasant abode, fanned by delicious sea breezes, fragrant with the perfume of flowers, and vocal with the melody of song birds." His home was appropriately named "Orange Hall" and was, of course, Georgia's first Governor's Mansion.

Farther down this road was the farm of Mr. Hawkins, surgeon. During the siege with the Spaniards in Florida, Dr. Hawkins saw very active medical service.

The prostrating heat of a tropical sun, combined with malaria and bad drinking water, resulted in much sickness among the troops, more than fifty a day being sometimes reported on the surgeon's roll. Besides the sick soldiers requiring attention during the siege there were some fifty English killed and as many wounded, including those at Fort Moosa, while the Spaniards lost more than 400 killed and taken prisoners.

Oglethorpe was also stricken with a fever, no doubt malarial in nature, and was forced to return to Frederica, his home, where he was under the care of Dr. Hawkins, regimental surgeon, for several weeks.

On Oct. 5, 1739, Oglethorpe and the colony lost the best friend among the Indians, Tomochichi; yielding to the effects of a lingering illness he died at the advanced age of ninety-seven. During the same month of the same year the dispute existing between England and Spain culminated in a declaration of war. Until he left Georgia on July 23, 1743, never to return again, Oglethorpe was constantly in offensive warfare with the Spaniards.

Besides Thos. Hawkins, surgeon, who came over with Oglethorpe's regiment, there were Wm. Bowler, surgeon, who was stationed at Fort Andrews on Cumberland Island, in attendance on two companies of Oglethorpe's regiment; Patrick Graham, surgeon to soldiers, sent with Lt. Col. Cochran, and Dr. Phylo, who was stationed at Ebenezer.

A personal notice states that Surgeon Graham married Capt. Cuthbert's sister, Mar. 4 or 5, 1740. Patrick Graham was not only a surgeon, but served also as apothecary for the Trustees. In fact, many of the

doctors must have served in some such capacity, for, as previously stated, the records show that Dr. Nunez ran a small drug store at Savannah, while the Colonial Records reveal the fact that Oglethorpe commissioned Capt. Will Thompson to deliver drugs and medicines to Thos. Hawkins to the value of £29, 9s and 6d.

Patrick Graham also presented an account for physic administered at Savannah from Nov. 30, 1737, to Oct. 4, 1739, part of which was for soldiers sick at Savannah en route to Frederica. He was one of the few who owned considerable land near Highgate. Dr. Phylo was stationed at Ebenezer.

While Oglethorpe was going from one place to another, either in active warfare with the Spaniards or preparing for it, the army surgeons were engaged in attending not only the soldiers, but the trust servants as well, for which no extra compensation was given as this service was required to keep down the expense of running the colony.

Their greatest work, of course, was at the battle of Bloody Marsh, near the home of Dr. Hawkins, where there was a great slaughter of Spaniards. With some five hundred wounded, killed and taken prisoners, Doctors Hawkins and Bowler, the two regimental surgeons, in the midst of heart-rending scenes of carnage, had more than they could do.

With no hospital facilities, no chloroform nor ether, their experiences must have been most nerve racking. With so many injured, Dr. Hawkins' bill for one shilling to be paid Richard Hughes for sharpening surgical saws must have been in order, as was fifteen shillings for Moses Lidesmos for cleaning and grinding surgical instruments.

Dr. Hawkins not only traveled on horseback, but a good deal was done by boat; a bill being sent to the Trustees for £5 for services of his boat and two servants to enable him to do his "surgeon's business." This was disallowed as being unreasonable.

Along with his general private practice there was considerable obstetrics to be done, as in 1740 there were 55 babies born in Frederica alone. A letter written by Dr. Hawkins to the Trustees May 23, 1736, af-

fords a satisfactory insight into his character and qualifications:

Frederica, the 23 of May, 1736.

To The Hon., the Trustees for the Establishment of the Colony of Georgia at their Office in Old Palace Yard. Westminster, Hon Gentlemen:

I have by this Opportunity remitted my Accounts of the two last months, which I have the Satisfaction of Doing without the loss of any, but one Infant and Mrs. Humble, (a Woman aged upwards of 60 who died of old Age rather than Illness).

The Chief Illness that happ'd was a Cows During Our Passage. There most Complaint of Coughs and Colds occasioned by the Change of weather and Living, during our Stay together with want of Exercise. At our passing the Tropic we had but few Complaints either of Head-ache of over Costiveness, at our Arrival here Some few had Pains in their limbs and Rhumatic Disorders, Inflammation of their feet, and Leggs, most of which Cured by Strong Purgatives; and as Occasion required, Formentations of the Discutient Kind; as Yet Fluxes have not prov'd So Obstinate as we could reasonably expect, the following was my General Method of treating them; they Vomited with the Ipecacuana in the Evening, the next morning if necessary I gave them a purge, and in the Evening a Small Draught of Burnt Rice Liquor, or the white Drink of Burnt Hartshorn with 20 drops of Laudanum; with which only several have recovered, their Drink was chiefly of the same liquor,— and The following Electuary has proved very Serviceable, viz., Conserve of Roses and Luceallhus Balsam of each an Ounce Bole and SpermaCeti of each 2 drams made into an Electuary with a Sufficient quantity of Diacodium, of which the Patient took a Small Quantity 5 times a day, in a Draught of his Rice or Hartshorn drink: In Cases of any Continuance a Little Burnt Clarret Releevd them when weak and Languid. Fevers have Yielded to Bleeding, and the uses of the Lapis Contreyarva, drinking wither Barley Liquor, or an Emulsion of Indian Corn; and few have as yet required Blistering, wounds of all kinds are very Difficul to Cure, our Blood Abounding with Scorbutic Salts. I attribute my Success on the Above account owing in a great Measure to Your Honors Prudent Prohibition of Rum and Spirituous Liquors, which if had not ben we might have ben half lost, I thought it my duty to acquaint you with my Proceedings here, in which I have the Satisfaction not to diminish a Person of the Number entrusted to my Care. Assuring you Hon Gen that my utmost Endeavrs Shall be always ready for the Interest of the Colony and the Health of the Inhabitants I am,

Yr very Humble

and Obedient Servant.

THOS. HAWKINS.

Dr. Hawkins, beside serving as surgeon, was also appointed as one of the bailiffs of Frederica, one account being sent in for £48, 13s, 3d; another £21, 12s, 3d, for this service. "The bailiffs of Savannah and Frederica, like those of Scotland, were empow-

ered to the Trustees, as proprietors of Georgia, to give enfeoffment; and like them, were magistrates of burghs. They exercised more civil and judicial jurisdiction than an English bailiff, the chief magistrate of some particular town. It was giving large powers to men with humble titles; and though it is the power, and not the title, which confers greatness, yet the majesty of law, and the dignity of the colony, demanded that its executive officers should bear a name more linked with the nobler offices of state and the higher tribunals of justice, than with a sheriff's court or a baronial steward."³⁵

As for several years there was no lawyer in Georgia, and every suitor was obliged to appear in person to prosecute or defend his cause, Dr. Hawkins' position as bailiff lent added responsibilities other than those of a surgical nature. He was the glaring exception to the other bailiffs at Frederica on account of previous education, as the others have been criticized as not being able to write and scarcely qualified for the bench.

For awhile there seemed to be much confusion about Wm. Bowler. He claimed to have gone to Georgia in May, 1738; was stationed at St. Andrews, Cumberland Island, to attend two companies of Gen. Oglethorpe's regiment where a party of Highlanders kept guard under Ensign Hugh Mackay, with a surgeon to attend them; later moved to Darien, thirty miles distant, where he made money.

Besides attending the Highlanders, Bowler attended the eighty women and children belonging to the soldiers at Makay's town on Cumberland; also the Amelia Highlanders and the people connected with the scout-boat at Amelia Station. It is most likely that he was appointed as a surgeon by Oglethorpe, the appointment not being reported to the Trustees, for later an order was sent that he be paid £45 for 18 months of medical care.

As the system of town courts proved unsatisfactory and practically a failure, the Trustees, in January 1741, resolved to change it and by April of the same year had divided the colony into two counties; one, to be called Savannah, including all

of the territory north of Darien; the other, to be called Frederica, comprising St. Simons and the Altamaha settlements; each to have a president and four assistants. Thus was the county system of Georgia begun.

Wm. Stephens, former secretary, was appointed President of Savannah County, and later, the two counties being consolidated into one body politic, he was made President of both. A few years previous, while secretary, his reports to the Trustees in Stephen's Journal, which he kept from day to day, reveal several items of interest from a medical point of view:

Thursday, Dec. 1, 1737.—Walked out to see my people, how they were getting along with their work; where only four were employed, three of them being ill at home; and ever since my arrival some or other of them were ailing every day, which required a Doctor's continual attendance and like to prove very chargeable.

Friday, Dec. 2, 1737.—Another servant taken ill at his work this morning and came home.

Saturday, Dec. 17.—One of my servants came home at noon wounded by stroke of axe in leg, and in the evening another of them was taken ill. The Doctor that dressed the first and bled the other, gave me hopes that they would be well again in a few days. But how certain soever that might prove, it was very sure his Bill increased apace.

Jan. 5, 1737.—Mr. Brown of Highgate, in a drunken fit, with little or no Provocation, had taken his Gun loaded with drop Shot and a Ball and shot his Servant through the Thigh; and the surgeon who dressed it said the man was in a dangerous Condition.

Jan. 12, 1737.—Called on Mr. Bradley. Found him in bed complaining of his Want of Health; which he attributed to his living so much on salt Provisions, having no money to get fresh provisions. (By Saturday Mr. Bradley was able to bring list of Horses and cattle wanted Tuesday before).

Jan. 16, 1738.—Sickness which has never yet wholly ceased among my Servants continued to pull them down; and no less than four were now under the Doctor's care, one of whom we scarcely hoped would live, till this Day he began to recover.

Feb. 15, 1738.—Mr. Brown's Servant at Highgate being likely to die, as the Surgeon declared who attended him, a warrant was ordered to take Brown into Custody. (vide Jan. 5).

Feb. 17, 1738.—Mr. Bradley drew Bills on Mr. Causon for "two Doctors for attending his family and servants in their sickness." Refused.

Even during these early years, the Trustees were not unmindful of the poor and needy, £100 being voted for necessary support of sick, widows and orphans in northern part of Province, while £50 went to the

southern part for a like service. Public health and child welfare service was assuming definite form. Beginning in 1739, a salary of £5 was allotted a public midwife at Frederica for the poor and trust servants; this midwife being obliged to go on all occasions when required; £150 was voted for care of the sick at Savannah, viz., food, apothecaries, drugs, attendance midwife, nurses, burying dead, being as such as are on the poor account.

The first serious head injury of any note treated in the new colony was one to Oglethorpe himself, who came near being killed in his shallop, while sailing to reconnoiter St. Augustine. One of his cannon burst and a piece of a sail-yard struck the head of the General, and so wounded him that blood gushed from his ears and nose.

Despite the threads of Family, Church, State and Industry that had run through the texture of the new colony, in the face of the Trustees' efforts towards development of the new project and Oglethorpe's desire to have his house in order before leaving the infant colony for good, several influences combined for some half dozen years after his departure, not only to prevent progress but in a great measure to place the colony in a state of retrogression.

April 1 was moving day. The pestilential season was at hand. No planter would dare spend the night on a rice field from the beginning of spring until frost. The planters on the banks of the Altamaha spent their summers in the highlands several miles distant, as it was thought the miasma arising at night brought on malaria. It was not known that the mosquito carrying malaria would hide out during the day and do its deadly work at night.

Besides the mosquito was the pestiferous sand fly. Charles Wesley wrote in his diary as follows: "At one this morning the sand flies forced me to rise and smoke them out of the hut. The whole town was employed in the same manner."

Conditions like these would have made the Wesleys appreciate a poem emanating from the resourceful mind of one of Georgia's outstanding doctors who has spent his entire life beside the Marshes of Glynn; a

man who, as a member of the Glynn County Board of Health since 1914, has fought these pests and whose name is known throughout the surgical world as the discoverer of Branham's syndrome.

The poem, "Persistent Pests," was written by Dr. H. M. Branham a few years ago.

PERSISTENT PESTS

De skeeters wid dair pizenous bills
Prepares yo' sistem fer sum pills,
When lightin on yo' epiderm
Dey nockerlates you wid er germ.

De Noferless an' Culex too,
Kin make you cuss a streak er blu'
By perpetration of dair bite
Ex you cotes Maw-fee-us at nite.

Sum of dem sho er tune do sing,
And some flotes roun' on niseless wing.
But lemme say—dey aint fergit
To take along dair stinger yit.

De stego-wid er stripped back,
Kin fill you fuller Yellow Jack
An' dern-jew fever what'll make
Yo' very bones and inards ache.

Now what is dar us folks kin do,
To 'nihilate dem plum fer tru—
Hits dis—let dem Commission Men
Ac' t'wards de folks de part er fren,
An' gib onto de Bode er Health
Er smidgen of de City's wealth,
So dey kin spen' er leetle while
Er pourin en de ditches ile,
Whar stigo mires and stripped legs,
Does congregate ler 'posit eggs;
Now pourin in dem ditches ile,
Will bout er billyun ovums spile
And mak' dem wigglers wag ter death,
Er wriggling 'round ter ketch er breath.

De house flies sho kin pester too
Fer lots er low down things dey do;
De walks on sewage in de gutter,
Den shakes dair foots right in de butter,
Er leaving dar dem back-sill-eye,
What makes er lot-er peepul die.
Dem noxious flies—ole Egups plague
Dey'd break de peace what come from Hague
Er buzzin 'round your dinner table,
An' dey jus from de libery stable;
Fer filth an' dirt an' bloody sputum,
Am jes de things what 'xactly suit em.

Ef you dont 'sturb de skeeter nest
An fight dem flies—er low down pest,
Sum grabe-yard symptom will er-rise
To waft yo' spirit to de skies,
(Or some whar else)—who's gwine ter know.
When 'neath de sod youse lay-in-low,
I may be wrong, but hit look lak,

Us folks should gumption dis here fac—
 All mens wid wife, wid son or daughter.
 Should screen dey house—dey sholy oughter.

Contending with these pests, suffering from fluxes and malignant fevers that went hand in hand with the heat of a sultry summer sun, many drooped under these difficulties, got into idle and refractory company, which, together with drunkenness from whiskey, frequently brought about their undoing.

Many were disappointed in the quality of the land, were unwilling to work and hung for support upon the Trustees' store. Though Oglethorpe wrote to Gov. Belcher of Massachusetts, "this colony, which has made so much talk abroad, is almost left desolate," there is no gainsaying the fact that during the ten years which had elapsed since his arrival at Yamacraw bluff, the entire aspect of the country had been changed, and much advancement had been accomplished.

Some of the annoyances with which Oglethorpe himself had to contend, were the criticisms of Dr. Tailfer, an apothecary of Savannah. He became literally a thorn in Oglethorpe's side and was finally forced to take refuge in South Carolina where he was ostracized from the best society, and had no business in the way of his profession.

The only other physician mentioned as being in Georgia while it was still a colony, was Dr. John Milliken. No details of his life or his work are available. On Jan. 4, 1748, he was allotted 500 acres of land by the court of President and assistants in Georgia, making it self-evident that he had resided in the colony for three years previous. On the same list of allotments was one for 500 acres to Capt. Carr, whose plantation was held up to the Trustees as being as fine a one as was ever seen even in Virginia. Whether Dr. Miliken lived on his farm or whether he practiced medicine, the records fail to reveal.

Not only the physical handicaps deterred progress, but for a few years fear of forays by the Indians, and rumors of further invasion by the Spaniards, made life and property insecure, harassed trade, did

away with commerce and almost palsied the energies of the few who remained.

During these half dozen years there was a growing sentiment favoring the introduction of Negro slaves into the colony; even some of the clergy who had first opposed it reached the conclusion that it would be best for the colonists.

Bitter feeling resulted in so much excitement that even Mr. Balzies wrote the Trustees in May, 1748, "things being now in such a melancholy state, I must humbly beseech your Honors not to regard any more our, or our friends', petitions against Negroes."

Though the colony was at a low ebb, the distractions resulting from Spanish threats of invasions, the refusal of the Trustees to permit the importation and sale of rum, and to sanction the introduction of slave labor were not to exist much longer.

Better days were not far ahead. Though it was a long stretch from the new colony to Germany, it was on April 24, 1748, in the little city and spa of Germany, Aix-la-Chapelle, situated in a pleasant peaceful valley of Prussia, that there convened a congress which brought to conclusion the struggle known as the War of Austrian Succession, thus eliminating further dread of Spanish invasion. Upon confirmation of the Peace of Aix-la-Chapelle, most of the troops were withdrawn from St. Simon's Island and the fortifications soon began to fade into decay.

Close on the heels of the peace treaty a convention was called, presided over by Maj. Horton, the military chief of the colony, resulting in a petition being formulated, requesting that slavery be at once allowed, which was quickly agreed to by the Trustees. This was the last public act performed by Maj. Horton as in a few days he was stricken with a malignant fever which soon terminated his useful life.

The act repealing the former act prohibiting the importation and use of black slaves within the new colony, which was prepared by the committee appointed carried with it a provision creating the first quarantine movement for health protection to be inaugurated in our state, worded as

follows: "As other Provinces have greatly suffered by permitting ships with Negroes to send them on shore when ill of contagious Distempers (as particularly South Carolina has often by the Yellow Fever) proper places must be appointed for such ships as bring Negroes to Georgia, to cast anchor at, in order to their being visited, and to perform such Quarantin as shall be order'd by the President and Assistants, and no Ships must be suffer'd to come nearer than those Places before they are visited by proper Officers and a Certificate of Health is obtained.

"And in case of any contagious Distempers on board, proper places must be appointed at a distance from the Towns for Lazarettos, where the whole Crew of the Ship and the Negroes may be lodg'd and supplied with Refreshments and assisted towards their Recovery.

"You must acquaint the Trustees by the first Opportunity with the Names and Description of the proper Places for the ships to stop at, and likewise where to perform a Quarantin if there are contagious Distempers on board, that these Places may be specified in the Act."³⁶

Augusta

While Oglethorpe had given much attention towards fortifying the southern boundary from the Spaniards, he saw the importance of extending the limits of colonization toward the north, so through his influence the Trustees ordered that a town be marked out on the right bank of the Savannah River, the earliest account of which follows:³⁷

"Seven miles above New Windsor, on the Georgia side, lies the town of Augusta, just below the Falls: This was laid out by the Trustees' Orders, in the year 1735, which has thriven prodigiously; there are several Warehouses thoroughly well furnished with Goods for the Indian Trade. Hither all the English Traders, with their servants, resort in the Spring; and 'tis computed above two thousand Horses come hither at that Season.

Indians

"Above the town to the North West and on the Georgia side of the River, the Chero-

kees lived in the Valley of the Appalachian Mountains; they were about five thousand warriors; but last year it is computed they lost a thousand, partly by Small Pox, and partly (as they themselves say) by too much Rum brought from Carolina."

"The Creek Indians live to the Westward of the town."

"At a moderate estimate six hundred White men live by their trade in this vicinity."

There was a handsome fort at Augusta, the safety from which helped to develop the town. On account of the great value of the town, Gen. Oglethorpe had a path marked out through the woods to old Ebenezer. As the Cherokees had one marked out from Ebenezer to their nation, it was possible for horsemen to ride from the town of Savannah to any of the Indian nations on the Georgia side of the river.

As a trading post, Augusta rapidly outgrew any other settlement in the confines of the State. Multitudes of Indians flocked there at certain seasons of the year.

Only once did Oglethorpe visit Augusta. It was in September, 1739, while returning to Savannah from his perilous journey to Coweta Town, where he met in convention seven thousand red warriors. Prostrated by a slow fever he sought repose for a few days at Augusta. Writing a short note to Mr. Harman Verelet, he said, "I had a burning fever of which I am perfectly well recovered."

Mr. Samuel Brown, one of the principal traders in the Indian nation, was in a weak state of health and reported "many as extremely sick thereabouts; that a great many were down in fevers, and that Lient. Kent was so ill that it was feared he could not live."

"That in the autumn this malarial region, badly drained, the atmosphere impregnated with noxious exhalations from a soil recently denuded of forest trees and subjected by the plow to the direct rays of a semi-tropical sun, should have been visited by fevers of a severe type, excites no wonder."³⁸

While Gen. Oglethorpe was in Augusta, he was visited by Chiefs from Chickasaws and Cherokees, with the complaint they had

been poisoned by rum sold to them by the traders. It turned out that some unlicensed trader had transmitted smallpox to the Indians, which they thought had come from drinking poisoned rum.

On the disbanding of Oglethorpe's regiment at Frederica on May 29, 1749, one company was retained for defense, while the other members were allowed either to remain and have charge of the lands allotted to them in accordance with the promise of the Trustees at the time of their enlistment, or if some preferred to return to England provision was made for their passage via Charleston, S. C. Some few drifted, of course, to other parts of the State, among whom was Patrick Graham, surgeon, who formerly attended the soldiers sent with Lt. Col. Cochran. Two years later it appears that he was located at Augusta, in the capacity of agent of Indian affairs for the Trustees. On account of much apprehension of trouble with the Indians that might arise from the claims of Thomas and Mary Bosomworth concerning their rights to certain islands, which they claimed had been sold and conveyed to them by the Indians, Dr. Graham was instructed to look into the matter and make a definite report as to the true status of the case. Satisfying himself that the Indians were ignorant of any such deal, he bought the islands for the Trustees in keeping with their instructions.³⁹

Though a peace treaty had eliminated the anxiety of the Colonists regarding invasions by the Spaniards, forays by the Indians had not ceased.

Certain Quaker families who had formed a settlement seven miles above Augusta, upon a tract of land known for many years after as Quaker Springs, though peaceably inclined and confident of their ability to live in peace and harmony with the Indians, became alarmed at the intelligence that the Cherokees were on the eve of invading the white settlement. They hastily abandoned their settlement, leaving only their name for the spring. While the other inhabitants were busy with spring cleaning and plowing, there came a report of a general uprising of the Cherokees.

About the middle of May, 1751,⁴⁰ an ex-

press from Augusta, sent by Dr. Patrick Graham, reached Savannah, with information that James Maxwell and a number of Indian traders had just arrived from the Cherokee nation, from where they had fled with the greatest precipitation to save their lives; that two traders had been killed, and that the inhabitants had fled from their plantations and taken refuge in a church for mutual defense.

Though detachments of mounted militia that had been sent in different directions found no traces of the enemy near Augusta, it was deemed prudent to put the country in a state of defense. Militia was mustered, a troop of horses raised, and Noble Jones, M.D., was appointed Colonel, while his son, Noble Wymberly Jones, formerly a cadet in Oglethorpe's regiment, and later a prominent physician, was appointed to command the dragoons. Fortunately, however, all disturbances soon ceased and the colony escaped the anticipated horrors of savage warfare.

Pioneering, particularly in a wilderness, always spells deprivations and hardships, and those brave souls who brought about the *genesis* of Georgia, were not to be favored exceptions. Though the pioneers suffered physically, the Trustees had more than their share of worries; after twenty years of relentless effort they finally grew tired of the complaints against the system of government which they had established, became discouraged in their efforts to make the idle and dissipated industrious and sober and being almost persecuted with the murmurs of the people for whose benefit they had devoted so much time and spent so much money, resigned their charter June 20, 1752. The colony passing from the Trustees to the King, was transformed into a royal government, under the form of Province. The lord justices issued a proclamation for continuing all persons in their offices in the said colony till his majesty's pleasure be further known.⁴¹

While awaiting his majesty's pleasure the colony remained in an unprotected condition until Oct. 1, 1754, when the King decided definitely the type of government under which the province would be placed.

Pity it is that Maj. McCall, Georgia's first historian who, suffering from a lingering illness, was at times confined to a roller chair, did not devote one chapter to the early medical history of his State, such as David Ramsay left of our sister state, South Carolina.

In keeping with the history of other countries, civilization in Georgia developed naturally along the course of the streams. In some respects this was advantageous to the physicians, owing to the universally limited facilities for transportation; calls having to be made either on foot, on horseback or in canoes.

Early roads consisted of blazed trails through the woods. In the absence of bridges, streams had to be forded. Early maps show several Indian trails, crossing the state from west to east, and one traversing the populated seaboard originating down in Florida, ranging on up the coast to Savannah, to end farther up at Augusta.

The area was sparsely populated; patients were far apart, making it a trying undertaking for a doctor to cover his territory. As an example, Oglethorpe traversing the ten miles from Frederica to Darien, found boggy places that proved not quite impassable; rivers having no ford but could be crossed by swimming. Also the trees had to be blazed all the way for a horse road.

A medical call was frequently a day's journey. Some of the doctors owned row boats for river navigation and had servants to do the rowing for them, much as some of the present day doctors have chauffeurs to run their automobiles. One in particular was Dr. Thos. Hawkins who came over with Oglethorpe's regiment.

Recently I journeyed to the beautiful city of Brunswick, viewed the Marshes of Glynn, drove through the shaded roads of St. Simon's Island, stood on the crumbling uncared-for remains of Oglethorpe fort, walked down the road that led from the site of Frederica and on which was formerly located Dr. Hawkins' home, stood with reverence under the Wesley Oak beside little Christ's Chapel, viewed the site of the Battle of Bloody Marsh, also the re-

mains of the old Spanish mission. Oglethorpe could not have found a more beautiful or more peaceful location for a town, a fort or a home.

To one at all visionary, it would be easy to imagine the doctors then with powdered wigs, ruffled blouses, knee trousers adorned with silver buckles at their knees, reflected also on their shoes. This, though, would not be in keeping with the actual conditions, for the inventories of the Colonization Company show that the distinguishing characteristics of all clothes coming to America were their wearing quality. Doublets and jerkins were of leather or heavy woollens; the cossack, a garment similar to a coat, was of canvass and fastened with hooks and eyes, for buttons were a *vanity*. Heavy shoes and stockings were also listed, and the mandillon, a loose cloak, is described as of strong durable stuff. As prosperity later became more general, the drift was toward finer and costlier dress. Doctors no doubt dressed much in keeping with the other colonists.

In these early days the woods were infested with rattlesnakes, always a dangerous serpent to be encountered, so to prevent the bite of these snakes those who walked in the woods wore what they called Indian boots, made of coarse woolen cloth much too large for the legs, tied upon their thighs and hanging loose to their shoes. In striking at the boots, the snake would not reach the legs.

These early years of Georgia found patients suffering with malignant fevers, colds, debilitated states of the system, bloody flux, dropsy, swollen feet and nausea, measles, tuberculosis, scurvy, gunshot wounds, fever and ague and smallpox, and doubtless other diseases not mentioned in available records.

Medical information was not easily disseminated during these days, as the first medical journal published in the United States, "A Journal of the Practice of Medicine, Surgery and Pharmacy in the Military Hospitals of France," published by order of the King, did not appear before 1783. The first really American medical journal, "The Medical Repository," did not begin

until 1798. So the information to be had must have come from the college education obtained back in the old country, or perhaps from a few early publications brought over as a part of a limited armamentarium.

Before Georgia was founded Benjamin Colman published a tract in 1724 entitled, "Some Observations on the New Method of Receiving the Small Pox by Ingrafting or Inoculation." Colman, born in Boston, was a preacher, and in 1724 he declined to become president of Harvard College, though chosen.⁴²

Increase Mather, of Boston, another pastor, in 1721, published his pamphlet, "Some Further Account from London of the Small Pox Inoculated." Wm. Cooper, another minister of Boston, published "A Reply to the Objections Made Against Taking the Small Pox in the Way of Inoculation from Principles of Conscience," 1730.

Smallpox inoculation precipitated lively discussions. Being a new procedure many began to write about it just as doctors do about any new procedure today. Medical fads come and go, but human nature never changes. Nathaniel Williams, a preacher, doctor and schoolmaster, added a pamphlet about smallpox. In 1734 John Tennent of Virginia, published a little volume, "Every Man His Own Doctor"; or "The Poor Planter's Physician." Prescribing plain and easy means for persons to cure themselves of all, or most of the distempers incident to this climate, and with very little charge; the medicine being chiefly of the growth and production of this country.

This book by Tennent was something of the same type as "Primitive Physic" published by John Wesley in 1747. Both, no doubt, were of great practical value as both utilized indigenous plants that were available without cost for making home preparations. Wesley credited many Indian remedies with real virtue.

Tennent also published in 1742 the first American book on pleurisy. He supposed that pleurisy resulted from a diseased state of the blood similar to that caused by the bite of the rattlesnake. As Seneca snakeroot was considered by the Indians an antidote for snake bite, he reasoned that it might

be used advantageously for pleurisy.

This era also produced an essay by Thomas Cadwalader on the West India Dry-Gripes, with the method of Preventing and Curing that Cruel Distemper. This was printed and sold by B. Franklin, M. DCC. XLV. Cadwalader was made physician to the Pennsylvania Hospital when it was founded (1751). The gripes were due to lead-poisoning, but Cadwalader attributed it to the drinking of drams and strong punches of rum.

In 1736 there was issued a pamphlet on scarlet fever by William Douglas, who was a member of a medical society in Boston, New England. The descriptive title given was "The Practical History of a New Epidemical Eruptive Miliary Fever, with an Angina Ulcusculosa." John Lining is accredited with having published in Charleston, S. C., in 1753, his description of the American Yellow Fever. Thos. Prior had published in London in 1746 his "Authentic Narrative of the Success of Tar Water in Curing a Great Variety of Distempers."⁴³

It can thus be seen that the few American medical publications were small monographs on some particular subject. There had not appeared an outstanding work covering the general practice of medicine in the colonies.

The remedies available were also limited in number as well as in amount. The medical supplies sent over for the new colony were rapidly exhausted, and home remedies made from indigenous medical plants had to be resorted to not only on account of the scarcity of imported drugs but also on account of the poor financial condition of the colonists.

Early training in the fundamentals of botany prevented this being the hardship on the doctors of the colony that it would be on present-day physicians. In those days a botanical garden, well stocked in medicinal plants, was as frequently an adjunct to each medical society as a library is now; naturally the members were well versed in the preparation of pharmaceuticals from crude drugs. Papers and minutes of meetings show actual records of salitrum seed being sent from England as a remedy for bloody flux.

Wild horehound, both by itself and in conjunction with *Conus Florida*, in intermittent fever, colds and debilitated state of the system. Tar water, available all over the colony, was used for various distempers. Sarsaparilla, cassia, and other sorts of trees grew in the woods, yielding gums and rosins, and also some oil excellent for curing wounds.

Along with the store of medicine furnished the Moravians, was some balsam, considered good for numberless internal and external uses. Bleeding was resorted to in different ailments as it was an approved practice at that period. Infected cuts were treated by heating oak leaves and binding them to the limb, thereby inducing free perspiration which at times was followed by quick relief.

Though the only authoritative record of scientific vaccination in Georgia is found some forty years later than the colony period, the doctors then had access to a suggestion which is striking through its simplicity. The technic suggested was as follows:

"Draw a piece of thread through a ripe pustule so as that some part of the thread may be moistened with the matter. This, when dry'd by holding it a few minutes in the air, may be put into a clean box and kept for use. When the operation is to be performed, first make a slight scratch or superficial incision, either in the leg or arm as near that part of either where issues are commonly made: cut off a small piece of the thread charged with varilous matter, one-eighth of an inch, or even less, lay it upon the incision, cover it with a bit of sticking plaster and the operation is performed."⁴⁴

Beside native herbs from which home remedies were made, many drugs of merit and in use today, were known to the doctors of the colony. Six decades prior to the founding of Georgia, Thomas Sydenham had described the alcoholic tincture which we know as laudanum. His preparation was made from opium and saffron, extracted with Canary wine. His opinion of opium, frequently quoted, shows a different attitude toward narcotic drugs than exists today. Of all the remedies which a kind providence has bestowed upon man for the purpose of lightening his miseries, there is not one which equals opium in its power to relieve the violence of so many

maladies, and even to cure some of them. Compound tincture of benzoin containing peru balsam, and tolu balsam had made its appearance by now, being first known as Friars' balsam.

Lemonade was extensively used as an antiscorbutic. Guaiacum and sarsaparilla had made their appearance as had jalap, which came as a new drug from Mexico. Its virtues were so quickly extolled that its use in Europe had become widespread, though on account of its being called Jesuits bark, protestants refused to use it.

Cinchona was the new drug that prompted Sydenham to throw off the shackles of prejudice and adopt its use with great success. Torti, a prominent Italian physician, had coined the word "mal-aria" "bad air," thinking it resulted from exhalations of marshes, instead of its true cause, a blood parasite injected by the sting of a mosquito. Coca was known for its stimulating qualities, while ipecac had been used with success in cases of dysentery. Helvetius, having cured the son of Louis XIV, was paid the equivalent of \$4,000.00 for the secret of the cure. Copaiba and serpentaria and columba were known also to the doctors of this period. Johann Rudolph Glauber of Germany had discovered "Glaubers salt" in the waters of a Hungarian spring and which later was identified as sodium sulphate.

Sixty years prior to the colony period Peter Seignette, an apothecary of Rochelle, France, accidentally discovered Rochelle salt, first called Seignettes Salt. Its composition remained a secret for two generations, the problem being solved by Baume, a famous pharmacist of Paris sixty years later.

Calomel was known in this age as "dulcified mercury." Magnesium sulphate had been in use about one hundred years and was made popular on account of the Epsom spa in England. Christopher Glaser, apothecary to King Louis XVI of France, was one of the independent discoverers and users of potassium sulphate. He was the first pharmacist to make silver nitrate in sticks and sell it under the name "lunar caustic." Truc mistletoe of the oak was

considered by many an orthodox treatment of epilepsy.

Joseph W. England, in his "The First Century of the Philadelphia College of Pharmacy," describes conditions in the early colonial days which, no doubt, were applicable to Georgia as a colony. The conditions in America, far from the marts of the world, sparsely populated, newly settled, were distinctly worse than in England.

The circumstances under which the colonists had begun their life on this continent made it difficult to obtain physicians save only in large towns. At first preachers, while they travelled from settlement to settlement to comfort the sick spiritually, often administered medicines. They could apply ointments and plasters, dress a wound and dose suffering creatures with calomel, ipecac, jalap and tartar emetic.

Mothers kept for their children a variety of household remedies, knowledge about which had been handed down from generation to generation. Neighbor nursed neighbor in illness. There was a midwife for lying-in patients. Jimson-weed was smoked in a pipe for asthma. Pokeberries, when ripe and the juice dried in the sun, were made into a plaster for cancer. Sourdock root was made into an ointment for tetter. Catmint tea was used for colic, sassafras root as a purifier of the blood.⁴⁵

Of the earlier colonies it has been said that there were some few educated physicians and apothecaries in each of these settlements, but for the most part the practice of medicine consisted of empiricism and the following of Indian folklore.

This probably would apply to Georgia as a colony as well. Conditions were crude from every angle. The dwellings were of the roughest type, clothing was, as already described, coarse and made for rough wear, food was the plainest kind, roads were almost impassable, medicines were scarce and naturally doctors with university degrees would hardly be found seeking such an environment as colonial Georgia furnished for practicing their profession.

It has already been shown that Drs. Nunez, Graham and Hunter handled drugs

along with their medical practices, and the chances are that each of the doctors was an apothecary, though Bowler and Hawkins have been designated "surgeons."

Though the first twenty years of rough pioneer work was little calculated to be reckoned as of a finished type, still on a scale small only in proportion to the limited territory involved, much constructive work had been done.

The first public health service was inaugurated by furnishing public midwives for the poor; it being compulsory on the midwives to answer all calls that came.

The first quarantine regulations came during this era, in connection with the importation of negroes as slaves. A regulation was instituted requiring ships to remain a certain prescribed distance from the shore, to be visited by a health officer, and in event a contagious disease was found aboard a lazaretto to be built for caring for the sick.

The child's welfare movement in Georgia had its beginning at the orphanage "Bethesda" founded by George Whitefield. In connection with this the first hospital and the first free clinic were started under the direction of Dr. Wm. Hunter, who came over with Whitefield.

There is reason to believe that the first attempts at manufacturing drugs were also in connection with the orphanage, as one little house in the group is described specifically as the apothecary "still house."

These rugged souls had done good work for the Trustees, and had given the colonists conscientious service in keeping with the scientific knowledge of that time.

They built a simple, but thorough foundation on which 75 years later grew and developed a medical renaissance which ultimately resulted in Georgia Medicine finding deserved recognition in the group of immortals gathered together in the Hall of Fame.

BIBLIOGRAPHY

1. Genesis of Georgia. Jefferson Randolph Anderson. The Georgia Historical Quarterly, Vol. XIII, No. 3.
2. Old map of Georgia, 1760. Suckling & Co., London.
3. Colonial Records, Vol. 1, Candler.
4. Colonial Records, Candler, Vol. 1, p. 30.
5. Stevens History of Georgia, Vol. 1, p. 90.
6. The History of Georgia, Chas. C. Jones, Jr., Vol. 1, p. 125.
7. Georgia Historical Quarterly, June, 1918, p. 71.

8. Georgia Historical Quarterly, June, 1918, p. 71.
9. Early Epitaphs in Georgia, p. 23.
10. Letter from Suckling & Co., London. Catalog No. 119A, 1936. Portraits of Doctors.
11. Biographical Dictionary, Rev. J. L. Blake, 1835.
12. Historical Collections of Georgia. White's Statistics. Appendix.
13. Historical Collections of Georgia. White.
14. Historical & Picturesque Savannah, Adelaide Wilson, p. 237, 238.
15. Savannah and South Georgia.
16. Francis Moore's Voyage to Georgia. Chapter II.
17. Moravians in Georgia. Fries, p. 69.
18. Salzburgers and Their Descendants, p. 62.
19. The Moravians in Georgia. Fries, p. 48.
20. The Moravians in Georgia. Fries, p. 80.
21. Moravians in Georgia. Fries.
22. The Moravians in Georgia. Fries, p. 84.
23. Stevens History of Georgia, Vol. 1, p. 351.
24. Letter from Dr. L. Acland Taylor, Librarian, Bristol, England, quoting "Account of Orphanage in Georgia." Whitefield. March 21, 1745, p. 31.
25. Letter of Rev. Jno. Martin Balzius, Feb. 13, 1738.
26. Georgia Colonial Records, Vol. 24, p. 418. White's Historical Collections, p. 332.
27. Georgia Colonial Records, Vol. 24, p. 79.
28. Stephens History of Georgia, Vol. 1, p. 127.
29. Bancroft's History of the United States, p. 430, Vol. 111.
30. Georgia and Georgians. Knight, p. 126.
31. The Heiress of Crabham Hall, p. 136. Meredith Junior.
32. Historical and Picturesque Savannah.
33. History of Georgia. Jones, Vol. 1, p. 227.
34. From British Public Record Office; Board of Trade, Georgia, Vol. 19. Published—Colonial Records of Georgia, Vol. 21, p. 157. Manuscript Records.
35. Stevens History of Georgia, Vol. 1.
36. The History of Georgia, Vol. 1, p. 423.
37. A state of the Province of Georgia attested upon oath in the court of Savannah, Nov. 10, 1740. Quoted by C. C. Jones, Jr., Memorial History of Augusta, Georgia.
38. Journal of the Proceedings in Georgia, Oct. 20, 1737.
39. McCall's History of Georgia, pp. 164, 167.
40. C. C. Jones, History of Georgia, Vol. 1, p. 440.
41. Gentleman's Magazine, July, 1752.
42. Catalogue of Early and Later Medical Americans. New York Academy of Medicine.
43. Catalogue of Early and Later Medical Americans. N. Y. Academy of Medicine.
44. Gentleman's Magazine, March, 1751, p. 123.
45. Four Thousand Years of Pharmacy, Chas. H. LaWall, p. 396.

DANGERS OF LAXATIVES AND POULTICES FOR APPENDICITIS ARE STRESSED

The dangers of laxatives in appendicitis are again stressed by J. Shelton Horsley, M.D., John S. Horsley, Jr., M.D., and Guy W. Horsley, M.D., Richmond, Va., who state, in *The Journal of the American Medical Association* for September 30, that "an 'early' appendicitis may with a purgative or an enema become 'late' and gangrenous in twenty-four hours." The use of ice bags and poultices to the abdomen are also responsible in many cases of appendicitis for the development of an abscess or peritonitis.

In discussing the authors' paper Sara M. Jordan, M.D., Boston, declares: "The individual member of the population at large has an obligation in combating his or her disease. We must accept the responsibility of educating the public that when one has a bellyache, one must not attempt to freeze or cook the pain out. It is not to be treated by poultices, plasters or adjustments, pain relieving drugs, food or drink. Purgatives, laxatives or cathartics are not to be taken. If that bellyache lasts for two hours or longer, a competent physician is to be called and given full responsibility. Our profession and the public must be emphatically told that for acute appendicitis there is only one ultimate route, the surgical one, and that delay is dangerous."

PLANTATION MEDICINE

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During the first years of our statehood there were only two forms of group medicine: ship medicine and plantation medicine. Ship medicine, or rather ship-surgery, was limited in scope and could be classed as occupational only incidentally. Not often did this type of professional work appeal to Georgia physicians. Occasionally a physician desiring rest or travel would accept, temporarily, a post as ship-surgeon. The opportunities for advancement were not promising, and many who entered this field abandoned medicine and entered commercial life. The discussion of this type of occupational medicine can be dismissed with an epigrammatic quotation from a young physician of Savannah, Dr. Edwin LeRoy McCall, who wrote to his preceptor, "Those who go out as surgeons (in ships), sink the physician in the merchant or sailor."¹

Plantation medicine was developed early in the history of the colony, province and young State of Georgia, and was probably the first organized work in occupational medicine. The term industrial medicine might be applied to plantation medicine, since the plantation occupations were industrial as well as agricultural, and, really, agriculture should be regarded as one form of industry.

Plantation medicine may be considered from the standpoint of professional medicine, or from the standpoint of folk medicine, both aspects presenting abundant source material, full of interest. On the present occasion, the writer has neither time nor material at hand to give an adequate account of plantation medicine from both these aspects. He will attempt, however, without entirely neglecting some of the interesting features of folk medicine on the plantation, to show the influence of plantation medicine on the historical development of medicine in the South Atlantic Coast region, and especially its re-

*Deceased.

lation to progress in public health and preventive medicine. Much of the data used are from plantations on the sea islands and coastal plain of the South Atlantic Coast, especially in Georgia.

Early in the history of the State, opportunities for profitable medical practice were to be found in Georgia, in part at least due to the development of large plantations for the cultivation of indigo, rice and cotton by slave labor. In 1802 Dr. Archibald Alexander, a Virginian, traveled in Georgia, and wrote as follows:² "It is a charming country for physicians; there are but few qualified for practice, but a numerous train of empirics . . . I have been solicited by a number of the first character in a variety of places to settle in the country; there are a good many situations where a person might accumulate a large fortune in a short space of time in the practice of medicine."

For the needs of the white population, in both city and country, as well as for plantation practice, Savannah business men were interesting themselves to induce well-educated physicians to settle in Georgia. Prior to 1800 very few Georgia physicians had medical degrees or the advantage of training in medical schools,³ though many physicians were well trained by preceptors. In 1792, Phineas Miller of Savannah, an influential merchant and co-worker with Eli Whitney in developing the cotton gin, while on a visit to Newport, became acquainted with a progressive young physician of Huguenot descent, Dr. Lemuel Kollock, a graduate of Brown University, and induced Dr. Kollock to settle in Savannah, where he soon became the leader of the medical profession. In 1803, Dr. John Grimes, of middle Georgia, a descendant of a Virginia family, began practice in Savannah, after several years' residence in Philadelphia as a student, where he was a valued assistant to the great surgeon, Dr. Philip Syng Physick. In 1804, as a result of a conference of Savannah business men at the table of his friend and patron, Thomas Jefferson, Dr. James Ewell, of Virginia, was induced to settle in Savannah. Under the leadership of Dr.



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Noble Wymberly Jones, these physicians, with fourteen other Savannah physicians, founded the Georgia Medical Society, the first medical organization in Georgia, and one of the first city medical organizations in the United States. This society was formed "for the purpose of lessening the fatality induced by climate and incidental causes, and improving the science of medicine." During the next two decades the society undertook to secure a medical license law (1805),⁴ made topographic and medical surveys of Savannah and other Georgia cities (1804-1805), made epidemiologic surveys (1808, 1809 and 1820), established a medical library (1809), adopted a code of medical ethics and a fee bill (prior to 1820), and began the first systematic malaria-control work in the United States (1817). The Medical Society also undertook a more immediately practical objective by adopting and enforcing a fee-bill (1818), in which the charges for services were itemized. A special feature of the fee-bill was the provision for

reduced fees, usually about half the regular fees, for medical and surgical services to slaves.

While opportunities for individual improvement and improvement of the science of medicine were the main incentives to all these progressive measures, there was also the intent to restrict the practice of medicine, both in the city and on the plantations, to those properly qualified and legally licensed. Plantation medicine thus became a factor in securing improvement in medical practice.

Medical treatment on plantations included both the care of the white families, usually those of the master and of his business representative, the overseer, and of the slaves or workmen. The latter were in the majority, and, though the individual fees for the care of slaves were lower, the total revenue for medical care on plantations was largely in payment of medical and surgical treatment of slaves.

The plantations on the sea islands and coast of Georgia, and on the banks of her principal rivers, (Savannah, Ogeechee and Altamaha), were large, and devoted to the cultivation of rice and sea-island cotton as money crops, other crops being raised as subsistence for the workmen and work animals. Frequently the slave population of these plantations reached large numbers; from one hundred to three hundred. Their subsistence and care, both physical and medical, were economic problems which received much consideration both by plantation owners and by the physicians who gave them medical care. The slave population, often isolated on islands or remote river plantations, was somewhat different from that of the upland cotton plantations, the slaves being less intelligent and less well trained, and often coming directly from Africa or removed only one or two generations from savagery. The dialect of these isolated slaves, known as Gullah or "Geechee talk" was a degraded form of English, almost unintelligible to the upland Negro. The character and condition of these rice-field Negroes, who naturally retained many of the customs and much of the superstition of their African home, ren-

dered difficult the application of intelligent methods for their improvement physically, despite sincere attempts on the part of their masters to give them industrial, agricultural and religious training and to safeguard their health. Where these measures failed to attain the success desired, which it must be confessed sometimes occurred, it was due largely, often entirely to the difficulty of dealing with a backward and superstitious people, often reluctant to take advantage of a change in their surroundings, a change which, unquestionably, gradually led the African alien from savagery and paganism to a degree of civilization and Christianity, and, even in its worst forms, gave him food, housing and comforts much superior to those of his savage African home.

In the main the slaves received good medical care. This was usually the practice on the large plantations, and especially on those where the master lived on the plantation for a part of the year at least. In most of the contracts with overseers, the first requisite was that the overseer be required to be responsible for the welfare and health of the slaves. Provision was made for medical care and the overseer required to call a physician if the sick slave's condition was serious or promised to become so. On the larger plantations a sick house or hospital was provided, sometimes with separate wards for men and women, and separate provision for lying-in women. Inasmuch as pregnant women were usually given light tasks and a rest after parturition, and the mothers who were able to work in the field could not take care of their children, a nursery was provided and the children placed in the hands of an older woman, skilled in their care. This nurse attendant, dignified by the title "Maum," was often also the plantation midwife, and frequently more skillful in doctoring the sick than the "obershur," or overseer. Where the number of slaves was large, one woman served as nurse in the hospital, another as attendant to the children, and still another as midwife. Negro midwives who had the reputation of being competent were allowed to do midwife work

for those living off the plantation, and sometimes were called in attendance on white women.

The above description applies more particularly to the large plantations. Where the number of slaves was small, and especially on plantations entirely under the direction of overseers, the owner living elsewhere, conditions were sometimes not so good. Often one building served as hospital and children's house, with a single attendant who also did the midwife work of the plantation. Sometimes no special building for the sick was provided, necessitating their treatment in the slave homes. On the smaller farms, where the owner did the actual farm work assisted by one or more slave workers, there was no special provision for the sick, but the individual care given slaves on these small farms was usually fairly good, since the slave properly represented the whole investment of the owner in addition to his land. In general, such slaves were given the same medical attention as was received by the white family of the master. On account of the isolation of many of these plantations, far from a doctor, the medical services to the white family was often deficient.

What has been described represents the conditions usually prevailing. Occasionally the medical service fell much below this average, and we have the testimony of two Savannah physicians to this effect. Among the better class of plantation owners a high standard of responsibility operated, together with a commendable pride in maintaining the health and comfort of the slave family, in securing good medical service for the workers on the plantation. As Dr. Richard D. Arnold stated in his letters:⁵ "A planter loses so much capital by the death of every one of his operatives, and hence to save his capital is to save his Negroes. Servitude, as it exists with us, is the only institution in which Interests and Humanity go hand in hand together." Hernia was a common condition in the Negro, and, in 1836, Dr. Arnold wrote as follows to Dr. Heber Chase of Philadelphia, who had invented a truss:⁶ "The interest, if no other motive, causes the

Master to obtain medical aid for his slave, and, instead of looking to the laborer for his remuneration, the Physician looks to the Employer. This is the true reason why Physicians get into practice more readily at the South than at the North,—and that here he stands some chance of making his bread while he has teeth to chew it."

Dr. Joshua E. White, a Georgia doctor, who first practiced at Waynesboro, and afterwards removed, about 1803, to Savannah, was one of the founders of the Georgia Medical Society, and a corresponding member of the South Carolina Medical Society, founded in 1789. Dr. White took a great interest in medical progress and made health surveys of several Georgia communities, including Savannah. In his printed report, published in the *Medical Repository*,⁷ he informed the medical profession of Savannah of the great need of improvement in the care of the slaves on plantations near Savannah.

"The fatality of our climate in the winter and spring months to new Negroes, is of melancholy notoriety, and forms a very considerable drawback to their increase. Unused to the cold which is sometimes experienced here, with their thin and scanty clothing, bad lodging and impoverished diet, they are incapable of resisting the effects resulting from those combined causes; and hence they fall easy victims to inflammatory diseases, particularly of the lungs. Interest and humanity both urge to a greater attention to their comfort; thus, not only to ameliorate the pains of slavery, but to guard against the disease; often the greatest foe to the planter's hopes. The constitution of the African Negroes is as unfit to guard against the effects of our climate in the cold months, as that of Europeans, and our northern brethren in the hot. A residence of one or more years is equally necessary in both, to assimilate the systems to its versatile nature, and to shield them from its unfriendly influence. Winter and spring are the enemies of the former; summer and fall of the latter. The one should be guided by obvious rules, founded in experience, dictated by prudence and their own judgment; the other

from an incapacity to judge aright, should be governed and directed."

Another advocate of better medical and hygienic care for slaves was Dr. James Ewell, of Savannah. A Virginian by birth, Dr. Ewell was well acquainted with the conditions surrounding slave labor. To him we are indebted for much that we know of plantation medicine, since the information in detail has been preserved in Dr. Ewell's book, issued in 1807, under the title, "The Planter's and Mariner's Medical Companion." In the seventh edition of this work, issued in 1827, Dr. Ewell urgently advocated, both from the standpoint of plantation economy and humanity, the better care of slaves, especially noting the value of cleanliness and citing instances where sick slaves, left to themselves in dirty cabins, suffered from the want of proper medical and nursing care. Dr. Ewell was especially interested in hospitals for the slaves, and wrote,⁸ "Having been frequently an eye-witness of such scenes, of which the owner himself was, perhaps, ignorant, I feel it my duty to advise him, not only for humanity, but interest's sake, especially if he have many, to build a cheap coarse kind of building as an hospital. It ought to consist of but one large room, quite open to the top, well aired by doors and windows, and with a plank floor, that may be frequently washed and kept perfectly clean. Some good-tempered, notable, old woman of the (slave) family should be appointed to attend the sick and supply the proper nourishment. In this cheap and simple way many a valuable slave might, we are certain, be saved to his owner, which alone were an ample reward, without counting the present comfort of such humanity, of the future blessings of Him who has promised that every act of love, even to the poorest slave, shall be remembered as if done to Himself."

Dr. Ewell, soon after making his residence in Savannah, had interested himself in securing a public hospital for sailors. The movement for a public hospital had begun in 1792, and was promoted by Savannah physicians and business men, with the aid of a lottery. Not until 1808 were

funds secured, with a grant from the city to establish the hospital. In 1805, a private hospital for mariners was established by Dr. Ewell, and the success of this private hospital aided in forwarding the plans for a public hospital. No provision was made for Negroes in the hospital, but in 1832, the Georgia Infirmary was opened, the first hospital established solely for Negroes in America, under the direction of white officers and physicians. Planters were encouraged to send Negroes to this hospital, where better surgical and medical service could be given, especially in cases of serious illness, than at the plantations.

In estimating these criticisms of plantation medicine, the reader must remember, as stated by Noble Wymberly Jones, that at that time "Medicine was in its infancy." Much of the criticism of the plantations would apply equally to the medical treatment of both races. Though the Negro, as a rule, welcomed and appreciated medical attention, and was always ready to take medicine even though the doses were large in amount and vigorous in action, he soon tired of any fixed routine. As a pastmaster in the art of passive resistance, his cooperation, over extended periods, in the simple arts of personal hygiene, was often difficult to obtain. He also clung persistently and secretly to the many superstitions of his savage ancestors, and to this day retains great faith in his untrained herb doctors. Progress in plantation medicine, meeting these obstructions, was necessarily slow as applied to the slave population.

Medicine in 1800 was a strange mixture of erudition and ignorance. Entirely too much attention was paid to philosophic theories of medicine. Broussaisism was soon to succeed Brunonianism. Bleeding, occasionally of value as a therapeutic measure, was used to great excess, many patients being bled who, under the present form of practice, would be transfused.

Fevers were still not clearly defined as clinical entities, and their treatment and prophylaxis empirical and confused. The use of the names malaria and yellow fever were avoided by local practitioners, as mere descriptive terms. It was commonly

believed by many that the endemic paludal and bilious fever at times became changed in character and that the epidemic pestilential fevers, termed malignant fevers, arose locally in this way. Strong drugs, such as calomel, were frequently used in enormous doses, and blisters and other counterirritants applied liberally; mercurials were used to salivation.

Surgery was largely confined to the outside of the body, and to parts easily reached, through the natural channels. The closed body cavities, except where exposed by accidental injuries, were rarely invaded, with the exception of the skull cavity. Many delicate operations had been devised, especially those which could be done quickly with little loss of blood and with little pain. Except for these types of operations, surgery was mainly emergency work. The control of pain was limited, general anesthesia being then unknown, and to be discovered, over forty years later, by a Georgia physician.

The means for controlling hemorrhages were directed largely toward great losses of blood, all operations being bloody from the present standpoint. Antisepsis was unknown, and asepsis was not even dreamed of. The causes of contagious diseases were not understood, and intermediate contagion was a puzzle not to be solved until nearly a century had passed. Almost without exception, the physicians in Savannah and on the adjoining plantations were opposed to quarantine, now our chief defense against the introduction of pestilential diseases. This attitude was largely the result of their theories concerning fevers.

Despite these deficiencies, our predecessors accomplished great things in medicine. The coast country presented great opportunities to the medical student. The presence of a large body of aliens of African origin, introduced the problems of racial differences in disease. Some of the diseases of the Negro were undoubtedly brought from Africa. The Negro was found to be resistant to some of the diseases of the white race, immune to others, and unusually susceptible to still other diseases. Situated in the warmer parts of the tem-

perate zone, and adjacent to tropical lands, semitropical diseases occurred endemically, and, after 1804, were introduced in occasional devastating epidemics.

Time and space do not allow any attempt to discuss details in regard to disease, exceptions being made for a few items peculiar to the coast country.

The Negroes of the rice-fields were especially liable to sickness and death from pulmonary diseases, especially pneumonia and pleurisy. This condition persists to the present day, the death rates of Negroes from these diseases being abnormally high. Tuberculosis occurred, but was much less prevalent than in the period after 1865. Occasionally a plantation Negro would die, and the cause of death be stated as "The Breast Complaint." Rheumatism was also a common cause of the disability in the rice-field Negro, owing to the fact that much of his work was done in the water.

Venereal diseases occurred, but were much less common than at present. Stillbirths were also not so numerous as at present.

Tetanus was very common all along the coast of Georgia. Deaths from tetanus of the new-born were especially frequent, owing to the poor care of infants at birth. Infant mortality was high and the diseases of infants not understood, their care being left largely to the plantation nurse, or doctress.

Hookworm disease was unknown, but its complication and sequella, dirt-eating, and Cachexia Africana, were observed. A scholarly account of this latter disease was written by Dr. John LeConte, of Liberty County, Georgia, who practiced for a time in Savannah.

Smallpox was a common disease, both in the city and on the plantations, and was at times introduced by slave ships. Inoculation was practiced as early as 1764 (May 31), and on some plantations special hospitals for the care of smallpox patients were provided, being used also as sick houses for inoculated slaves until the danger of their giving the disease to others, had passed. After 1801, Jenner's vaccine was used, being first introduced by Dr.

Ewell. It is noteworthy that the first vaccinations were for the protection of slaves. Not until 1805, when the profession was organized, were systematic vaccinations of white people begun.

Asiatic cholera was largely a plantation disease, causing in 1834 great losses on the plantations for several miles along the Savannah River. The disease was easily controlled in the city, but rapidly spread on the plantations, due to the careless habits of the Negroes in regard to food and their custom of making secret nightly visits from plantation to plantation, despite the restrictive activity of patrollers.

Yellow fever, in the great epidemics of 1820, 1854 and 1876, rarely appeared outside of the city, and never infected contacts on the plantations. During the great epidemic of 1820, Dr. Wm. R. Waring stated he had not seen a fatal case in a Negro.

Malarial fevers were very prevalent in both city and country, and especially on the rice plantations. On some of the Savannah River plantations, it was impossible for a white man to remain on the plantations at night during the summer season, even the overseer being obliged to retreat to a cabin in the pinelands. These endemic fevers, presenting all the variations of malarial infection, were the cause of a considerable mortality. The average age of the inhabitants in the first third of the Nineteenth Century was only *twenty-nine years*, owing largely to the great number of deaths from infant diseases, from malarial fevers, and from the malignant fevers of occasional epidemics.

In 1817, convinced that the rice-fields were the source of the *Mal Aria*, the physicians of Savannah secured the passage of ordinances providing for the removal of the rice culture from fields near the city. The initial cost to the city, then containing five thousand inhabitants, counting all ages and all colors, and all conditions of servitude, was \$70,000, or \$14 per capita. The completed cost was over \$200,000. This was the first attempt in America, consistently continued over a long period of years, to control malarial fevers by

systematic drainage of known sources of infection. It was hoped that these measures would also control yellow fever, or malignant fever as it was called, but this failed for reasons we now well understand, the transmitting agents of these diseases not breeding in surface water.

In the attempts to control yellow fever and protect their fellow citizens, over twenty-five of the physicians of the Georgia Coast region gave their lives as sacrifices to their medical duty. The list begins with the name of Dr. Ebenezer Stowell, of Brunswick, who served in the yellow fever epidemic at St. Marys, in 1808, and ends with that of young Dr. Langdon Cheves, of Savannah, who died at Memphis in 1878. A memorial should be erected to these heroes of medicine, some of whom lie in unmarked, even in unknown, graves.

If the doctor was the hero of plantation life, the heroine was certainly the planter's wife, the mistress of the plantation, whose careful supervision and gentle ministrations eased the burdens, lessened the pains, and soothed the sorrows of her dependents; at times she extended her labors to include her poorer white neighbors. She was literally the "Lady with the Lamp," being nurse, purveyor and advisor, and also doctor in times of emergencies. References to her work are scanty in plantation records, but her labors are occasionally noted in plantation memoirs. The memory of her good works is present in the hearts of Southern people.

Dr. Charles Caldwell, an eccentric but clever physician of Philadelphia, a professor in the University of Pennsylvania, wrote to a Savannah doctor in 1805. "The South is the most interesting field for the study of Medicine." Prof. Richard H. Shryock, of Duke University, in 1930, in a review of medical practice in the Old South, concludes. "The medical care of Negro slaves was perhaps the most distinctive phase of Southern practice." At the dedication of Duke Hospital, in recent years, the writer heard Dr. William H. Welch of Johns Hopkins, express the opinion that the opportunities for public health progress had been most abundant in the

South, where, in recent years, the most progress in public health had been made.

There were many intimate connections between plantations and the development of medical practice. The successful conduct of plantations furnished the money used to educate the sons of plantation owners, some of whom took university degrees in medicine in addition to securing the best schooling available in English and the classics. Prior to 1800 a large number of physicians from the Charleston area had received degrees of Doctor of Medicine, some from foreign universities. In Savannah, at the time of the founding of the Georgia Medical Society, in 1804, only two physicians had degrees in medicine. Several others had taken a single course in medicine, two courses being required for graduation. With the development of medicine in Georgia and the rise of the plantation system, many young men were sent to medical schools. By 1845, the number of Georgia doctors who had taken degrees from the University of Pennsylvania was 280, (as compared with 228 from South Carolina). Dr. Lemuel Kollock was active in inducing young men to add university training in medicine to the usual preparation under preceptors.

A plantation physician, Dr. John Maxwell, Jr., of Bryan County, was the first Georgia doctor to have a medical license from a licensing body authorized by law in America. In 1793, he took an examination at Brunswick, N. J., and was successful in securing a formal license to practice. Georgia at that time had no license law.

Plantation practice furnished clinical material for local studies on medical subjects. Dr. Edwin LeRoy McCall based his graduation thesis in medicine (University of Pennsylvania Medical School, 1806), on the observation of a Negro woman patient on a Wilmington Island plantation. The studies on many malignant malarial fevers made by Drs. Wm. R. Waring, Wm. Coffee Daniell, Richard D. Arnold and Joseph Jones, drew material mainly from plantation sources. Local observations were at times made the basis of medical essays and theses, as shown in the following list, which

contains also studies on the medicinal value of southern plants:

Writer	Date	Title
Dr. Jacob De La Motta	1810	<i>Spiraea trifoliata</i>
Dr. Wm. Cocke	1788	Tetanus
Dr. James Glenn	1807	Dysentery
Dr. Wm. H. Cuyler	1817	Tetanus
Dr. James S. Morel	1832	Fevcers of Savannah
Dr. Wm. A. Caruthers	1823	<i>Magnolia tripeltata</i>
Dr. Alexander Cunningham	1816	Intermitting and Remitting Fevers

Occasionally articles on the diseases of Negroes were written, based on plantation experience. One of the most interesting of these is by Dr. Juriah Harriss, of Savannah, with the title "What Constitutes Soundness in the Negro." This was published in the *Savannah Medical Journal* in 1859-60.

On January 1, 1801, on the first day of the Nineteenth Century, Dr. David Ramsay, the celebrated physician of Charleston, South Carolina, thus addressed his fellow physicians:⁹ "Most of us are inhabitants of a city, the police (policing) of which needs much reformation. Let such of our members, as may be decently invited to seats in the City Council, not refuse them, but cheerfully join in aiding to introduce such regulations as may promote the health of the City."

So far as the writer is able to ascertain, not many of the physicians of Charleston followed the advice of the great South Carolina physician and historian. Dr. Ramsay had many admirers in Savannah, and possibly some may have been influenced by his advice. The close relationship between the business men of Savannah and the plantation doctors has caused many of them to attempt the problem of policing the health of the City of Savannah.

An unusual number of the physicians of Savannah entered public life, and have used their official positions to forward the public health program of the community. Eight doctors, including two who were especially successful in conducting plantations, were mayors of Savannah over a period of thirty years. Thirty-four physicians, for a period of nearly eighty years, have served as aldermen. Thirty-three physicians have served as health officers; the first in 1790. Others have served as members of the State Assembly, or as judges, representatives or senators in Congress.

Legislative service took too much of a doctor's time, and those entering legislative life sometimes became doctor-politicians, with the emphasis on the second part of the compound word. Possibly at times they sank the doctor in the politician.

Many of the Savannah physicians were owners and managers of plantations, as well as plantation physicians. The foundations of several family fortunes were thus laid. The success of physicians in this work was due, in part at least, to their skill in the care of the slave workers, who responded more effectually to the careful supervision of their physician-masters. At times also the planter-doctor was more of a planter than a doctor. It was the dream of almost every Savannah physician to retire on a plantation.

Only a few records of the financial returns received by physicians for medical work on plantations are available. Free-bills of the Georgia Medical Society indicate that many services were performed for slaves at rates about half the regular rates. Visits to plantations were on a mileage basis; \$1.00 per mile in the daytime, \$2.00 per mile at night, and \$2.00 per mile by water, many of the plantations on the islands being isolated. The fee for vaccination of white persons was \$6.00; for slaves, \$3.00, while a rate of \$24.00 was made for vaccinating slaves by the dozen. The fees for obstetric care of white women varied from \$50.00 to \$100.00, the rates being half for slaves. Few normal cases of childbirth among Negroes were treated by physicians, the plantation midwife doing most of the uncomplicated obstetric work. Most surgical operations were billed as a full charge for Negroes, an exception being made for trepanning, which was less for the blacks.

It is probable that many cases were seen during each visit to the plantation, the revenue thus increasing when sickness prevailed. The records show maximum yearly costs for medical service of over \$300 to \$500 on a plantation, but usually the returns were much less. Often the money payment of the physician for his part-time work was greater than that of the overseer

for full time, the latter receiving subsistence and rent free in addition.

Only occasionally in the Savannah area was the plantation work done by contract. In 1841 Dr. J. A. Wragg, of Savannah, contracted to do the medical work by the year for the Argyle Plantation, on the Savannah River, eight miles above Savannah, where there were one hundred slaves. In accordance with the fee-bill, the doctor would have been entitled to a fee of at least \$16.00 for each trip. His contract called for a yearly payment of only \$150.00. Contract service was disapproved of by the Georgia Medical Society, except for the United States Army. Occasionally disagreements were recorded in reference to city practice, but never in regard to plantation practice.

Our more intimate knowledge of plantation medicine is secured from Dr. Ewell's book. The first edition, issued in 1807, was given the title, "The Mariner's and Overseer's Medical Companion." The early editions were plantation manuals. Later editions were manuals of household medicine. The book was increased in size and became eventually an interesting and useful physician's manual.

Dr. Ewell advertised his book in the Savannah newspapers and aroused the opposition and disapproval of the local physicians, who feared it would interfere with their incomes from professional work on the plantations. Dr. Ewell shrewdly secured endorsements from prominent physicians in Charleston, Philadelphia and New York, and published these endorsements also in the Savannah newspapers. The editors of the *Medical Repository* were more liberal in their attitude and approved the issuance of health manuals for general readers, despite the censure of many physicians.

Since plantations were isolated, the plantation doctor carried his medicines with him, usually in saddle bags, or selected his remedies from a stock of medicines kept on the plantation. For minor complaints, the overseer used medicine from the same stock, but was often forbidden to give strong medicine, such as calomel and any strong cathartics.

To provide medicines for plantations and ships, Dr. Ewell sold, to accompany this Medical Companion, medicine chests containing medical and surgical supplies.

Plantation medicine on the Georgia Coast, with its almost semi-tropical climate and its alien population, was the source of observations and procedures which led to the improvement in medicine in early days in Georgia. Plantation doctors laid the foundation for preventive medicine in Georgia, and by their efforts as plantation doctors and plantation owners and public officials, supported public health work in the Savannah area.

BIBLIOGRAPHY

1. Kollock Memorial—Letter, McCall to Kollock, Aug. 19, 1805.
2. Blanton's History of Medicine in Virginia in the 19th Century.
3. Footnote.
4. Not successful until 1821-1826.
5. Letter, Dr. Richard Arnold to Mr. Jacob McCall, Aug. 29, 1849; Shryock; The Arnold Letters; Historical Papers of Trinity College Historical Society; Double Series XVIII-XIX, pp. 33; Durham, 1929; Duke University Press.
6. I.e. pp. 13.
7. Medical Repository 1803-4-5.
8. I.e. pp. 46; Ewell's Medical Companion, 7th Edition; 1827; Washington.
9. Ramsay—Review of the Improvements, Progress and State of Medicine in the Eighteenth Century, Charleston, 1801.

PLANTATION MEDICINE*

References to Works Consulted

1. U. B. Phillips, *Plantation and Frontier Documents: 1649 - 1863*. Cleveland, 1909. Vol. II.
2. U. S. Phillips and James David Glunt, *Florida Plantation Record*, from the papers of George Noble Jones. Missouri Historical Society, St. Louis, 1927.
3. Ralph Betts Flanders, *Plantation Slavery in Georgia*, University of North Carolina Press, Chapel Hill, 1933.
4. G. G. Johnson, *A Social History of the Sea Islands*, University of North Carolina, Chapel Hill, 1920.
5. Roland M. Harper, *Some Vital Statistics of a Century Ago*, Georgia Historical Society Quarterly, Vol. XV, No. 3, September 1931.
6. Richard H. Shryock, *Selections from the Letters of Richard D. Arnold*. M.D., Bulletin of the Johns Hopkins Hospital, Vol. XLII, No. 3, March, pp. 156-181; No. 4, pp. 213, 239, April 1928.
7. John Spencer Bassett, *The Southern Plantation Overseer*, Northampton, 1925.
8. Thomas Gamble, *History of Savannah*, Savannah, 1906.
9. *Constitution, Articles of Incorporation of the Georgia Medical Society*, the latter in manuscript. (Charter).
10. Kollock Memorial, Georgia Historical Society. Manuscript letters of Dr. Lemuel Kollock, Dr. Edwin Leroy McCall and Dr. Charles Caldwell.
11. Fee Bills, Georgia Medical Society, 1818, 1835 and 1863 — Manuscript and printed.
12. Julia E. Harn, *Old Canoochee-Ogeechee Chronicles*, Georgia Historical Society Quarterly, Vol. XV, No. 4, pp. 346-360; Vol. XVI, No. 1, March 1932, pp. 347-355; Vol. XVI, No. 2, June 1932, pp. 146-151; Vol. XVI, No. 3, Sept. 1932, pp. 232-240; Vol. XVI, No. 4, pp. 299-314.
13. George W. Bagly, *The Old Virginia Gentleman*, Charles Scribner's Sons, New York, 1910.
14. Elizabeth W. Allston Pringle, *Chronicles of Chicora Wood*, Charles Scribner's Sons, New York, 1922.
15. Orland Kay Armstrong, *Old Massa's People*, Bobbs-Merrill Co., New York.
16. W. M. Brewer, *Some Efforts of the Plantation System Upon the Ante-bellum South*, Georgia Historical Society Quarterly, Vol. VII, pp. 250-273.
17. R. B. Flanders, *Planters' Problems in Ante-bellum Georgia*, Georgia Historical Society Quarterly, Vol. XIV, pp. 17-40.
18. D. M. Potter, *The Rise of the Plantation System in Georgia*, Georgia Historical Society Quarterly, Vol. XVI, pp. 114-135.
19. Dr. David Ramsay, *A Review of the Improvements, Progress and State of Medicine in the XVIIIth Century*, Charleston, 1800-1801.
20. Richard H. Shryock, *The Origins and*

*The late Dr. V. H. Bassett appended to his article "Plantation Medicine" memoranda dealing with popular remedies used by Southern people. While no explanation was given by him, no doubt the remedies referred to were popular in the period covered in his article. In addition, other notes pointed to references consulted by him which were not included in the bibliography attached to his article. Both the popular remedies and the additional references listed are published as submitted by him.—Ed.

- Significance of the Public Health Movement in the United States.* Anna. of Medical History, Vol. I, No. 6, pp. 645-
21. Richard H. Shryock, *Medical Practice in the Old South*, South Atlantic Quarterly, Vol. XXIX, No. 2, April, 1930.
 22. Lawrence Lee, M.D., *The Negro as a Problem in Public Health Charity*, American Journal of Public Health, 755 Boylston St., Boston, Mass., Vol. V, No. 3, pp. 207-211.
 23. James Ewell, *The Mariner's and Overseer's Medical Companion*, Philadelphia, 1807.

POPULAR REMEDIES USED BY SOUTHERN PEOPLE

*From reports of Public Health Nurses,
Midwives and other sources.*

V. H. BASSETT, M.D.
Savannah

1. For cold, take Colt's foot candy.
2. For lockjaw of the newborn, give a tea made of Cockroaches.
3. For a dressing on the skin lesions of pellagra, use pot liquor (human urine).
4. For Whooping Cough, use a tea made of Sheeps' dung.
5. To stop hiccup, apply a piece of paper, wet with cold water, to the forehead.
6. To aid a woman in childbirth, let her blow hard in a bottle.
7. Remedy for "Risen Breast." Apply fresh cow manure while still warm. This is an old *pioneer* remedy.
8. For Earache, apply a hot roasted onion.
9. To remove warts, make the wart bleed, and put blood on the eye of a grain of corn; then feed the corn to a chicken.
10. To stop after birth pains; place an axe under the mattress, so that blade will be right under the patient's hips. It will cut the pains off.
11. To prevent conception, swallow a buck shot after each menstrual period.

12. Remedy for earache or toothache, scorch cotton and put wax from ear on it and place in ear or on tooth.
13. Nose bleed: put brass key down back, or put salt on top of head.
14. To make teething easy for baby, tie nutmeg around neck.
15. To stop hiccup, put a brown paper bag over face and neck.
16. To help pains in baby's abdomen, feed milk from mother's breast with tobacco smoke blown in it.
17. To make teething easy for baby, find nine lice from the bark of an old tree and tie them in a bag, around the baby's neck.
18. To prevent lockjaw after stepping on a rusty nail, apply ink to the wound.
19. For sores, apply Romany Balm, an ointment made from fat of the kidney of the pig, clippings from the frog of a horse's hoof, houseleek, and the bark of the Elder Tree.

PAGES FROM THE HISTORY OF THE GEORGIA MEDICAL SOCIETY OF SAVANNAH, GEORGIA

SECOND OLDEST ACTIVE CITY MEDICAL SOCIETY IN THE UNITED STATES

VICTOR H. BASSETT, M.D.*
Savannah

The Georgia Medical Society is the second oldest active *city* medical society in the United States, having been founded in the year 1804. In the year 1932, the bi-centenary of the founding of the colony of Georgia occurred, and our society was then in the 130th year of its existence.

Only one active city medical society is older—the College of Physicians of Philadelphia, founded in 1787. One county medical society antedated our society in origin—the Medical Society of New Haven, Connecticut, founded in 1783. In addition, seven of the original states of the union formed state medical societies prior to 1800, including the venerable society of the Palmetto State, founded in 1789.

*Dr. Bassett died shortly after this article was completed.

Our society, considering active societies only, is therefore the tenth in order of founding and has the further distinction of being the first medical society organized in the nineteenth century.

Eight other medical societies of early date, practically all city organizations, were founded prior to 1800, but all have long been extinct. Our society was therefore eighteenth in order of founding, if both active and extinct societies are included in the list.

The Georgia Medical Society was at first intended to be the medical society for the young state, hence the name. Some physicians living in neighboring counties were indeed included in the early membership, but the difficulties of travel in early days restricted their number. Since the society was incorporated under its present name at or near its beginning, the State Medical Society of Georgia, founded at a much later date, was compelled to take another name, the Medical Association of Georgia, but was at times called the Georgia Medical Association. That name is now utilized by a Negro medical organization.

As the state grew, other city medical societies were formed: the Augusta Medical Society in 1822 and at a somewhat later date the Central Medical Society, located at or near Milledgeville, the date of founding and history being but little known. The Central Medical Society was in active progress in 1828. In 1837 Dr. Richard D. Arnold was appointed a representative from the Georgia Medical Society to confer with a representative of the Central Medical Society, presumably for the purpose of founding a state or national medical society.

The more than local influence of these medical organizations probably delayed the founding of the Medical Association of Georgia. Georgia was the last of the thirteen original states to organize a state medical society, in 1849. You will remember that the American Medical Association was founded in 1847. Delegates from the Georgia Medical Society, including Dr. Richard Arnold of Savannah, took an active part

in the organization of the national association.

As time is measured in America, our society is therefore quite old, and I trust I am correct in inferring that you will be interested in some of its main accomplishments — accomplishments which, although unassuming in character, are full of interest to the medical historian.

Savannah has been fortunate in the service rendered by her doctors. They were present with General Oglethorpe at the birth of the colony (the obstetric difficulties were considerable). They aided in the selection of a healthful site for the new community. They nursed the growing colony in its early days, and helped to fight its battles with Indians and Spaniards. They stood up staunchly for its freedom in the days of its rapidly developing strength and at the time of its separation from the mother country. They guided the first steps of the new state in the paths of peace. They were present with their help in times of epidemic, of devastating fire and storm, very many of them laying down their lives in their effort to save the lives of others. They helped to fight her battles in 1776, 1812 and 1861-65. They suffered at times loss of property, imprisonment, wounds and even death, and, now in the days of her comparative old age they are still comforting her and protecting her in the year of her two hundredth birthday.

The history of the members of this society is one mainly of modest and faithful service. Many of its members deserve the title of Humble Heroes of Medicine. No great medical discoveries may be cited as the work of its members, though a few attained a national reputation in their scientific work, and a still smaller number became internationally known. An unusually large number of its members have served the community in civic and political activities. In such positions they found and used opportunities to promote the health, welfare and happiness of the community. Prior to the founding of the Medical Society, many of our doctors served the colony and young state in military, judicial and governmental

positions, notably our first president and his noble father.

Of our founders, Dr. George Jones, son of the first president, served in many military and civic capacities. Dr. Jones was a soldier in the Revolutionary War (suffering long imprisonment); as a legislator he served as representative and senator and member of the Constitutional Convention; as a jurist and lawyer he became Judge of the Superior Court and was also Mayor of Savannah.

Dr. John Grimes, relative by marriage of our first president, entered political life and served in the State Assembly. Dr. Moses Sheftall, one of the founders, served as alderman, port warden, Judge of the Inferior Court, Overseer of the Poor and as surgeon in the Chatham Regiment in addition to his many medical duties.

Of all our members, eight physicians served as Mayor of Savannah for twenty terms, covering twenty years. Thirty-two members served as aldermen for sixty-six terms, covering 132 years. Thirty-three physicians served as Health Officers, covering the period of 143 years. Some of the progress made by these officials in hygiene and sanitation will be noted in this paper. This work has been the most distinguished service of members of the Georgia Medical Society to the community in which they lived.

Before detailing any further the leading events of the history of the Georgia Medical Society, the sources from which information has been drawn may be briefly stated.

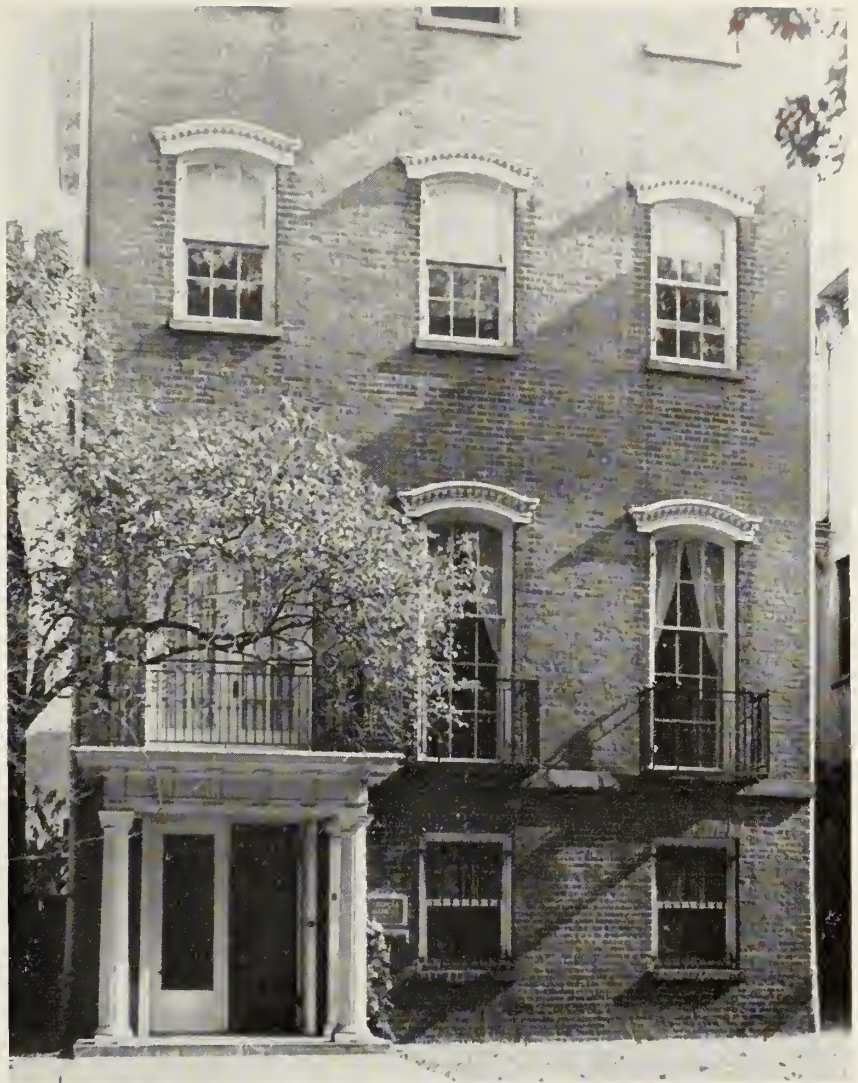
Prior to 1804 the sources available are scanty and difficult to locate. No connected account of the progress of medicine can be written for the early period of the colony, though many of the recorded events are full of interest. The available biographies of the founders of the society are short and incomplete. More adequate biographies of Dr. Noble Jones and of Dr. Noble Wymberly Jones are found in Thacker's *Medical Biography* (1828). Very brief statements in regard to other founders are available in Dr. Arnold's address to the Georgia Medical Society, published in 1868. The minutes of the Medical Society constitute

the largest source of information and are available from 1822 to 1933 with some parts wanting, owing to inactivity or to loss of minutes. Some information of interesting character, but small in amount, is found in the files of the Georgia Gazette and the Savannah Advertiser and Columbian Museum—early newspapers. Much more complete information is found in the files of the Savannah Morning News and Savannah Press and the minutes of the Faculty of the Savannah Medical College.

Many papers on medical subjects have been consulted in the DeRenne Library, founded by Dr. George Wymberly Jones (DeRenne). It was my privilege to give some small assistance in securing some of the medical items for the collection on the history of medicine in Georgia and the South which has been gathered together in this great library. Some information concerning doctors is available in the various histories of Georgia. The history of the city government of Savannah, Georgia, by Mr. Thomas Gamble is a mine of accurate information. Consultation of the files of the early cemetery records and death records has yielded an almost complete list of the physicians who have practiced in Savannah, including those who were and those who were not members of the society. In addition, a considerable amount of historical material has been collected in the library of the society.

Before citing some of the accomplishments of our society in past years, I wish to pay tribute to our first president, Dr. Noble Wymberly Jones, the Georgia Revolutionary patriot. At the time of the founding of Georgia, General Oglethorpe was accompanied by an English physician, Dr. Noble Jones, who was not only the main medical adviser of the colony but a captain and later a colonel in Oglethorpe's troops. He took an active part in resisting the encroachments of the Spanish and in protecting the colony from Indians. His son, Noble Wymberly Jones, was only about nine years old at the time of his arrival in America. What education he received, both general and professional, was given by his father in the intervals of his strenuous duties as doctor and soldier. Dr. Grimes,

*Home
of the
Georgia
Medical
Society,
Savannah*



in his eulogy on Dr. Noble Wymerly Jones, states "the bedside was his university, the camp and fort his hospital and theatre." Young Jones became a cadet in Oglethorpe's troops at the age of fifteen and was later promoted to be an officer and surgeon. He undertook both military and surgical duties.

In 1748 Dr. Noble Jones, having given his son such medical training as was possible, locally, associated himself with his son in practice, the active partnership continuing until 1758—during the last three or four years the son doing most of the work. In 1752 when Georgia became a crown colony, the father became Treasurer of the colony and member of its council, and from that time on devoted his attention largely and finally entirely to civic duties.

The son continued active practice and in addition became a member of the Colonial Assembly, being elected Speaker.

When difficulties arose between the colonies and the English government, the Senior Jones remained loyal to the King, but died in 1775 before active warfare began. The son, Dr. Noble Wymerly Jones, was an ardent and active patriot, and began to oppose the aggression of the British Government in 1764. It is pleasant to note that differences in political opinion did not interfere with the intimate and affectionate relationship between Noble Jones and his son. It is true that Dr. Noble Wymerly Jones, when appointed a delegate to the first Continental Congress, did not accept nor attend out of deference to his father's wishes and advice. Dr. Jones, Jr., belonged

to the Georgia Committee of Safety and helped organize the "Sons of Liberty"—a group of active young patriots who met at Tondee's Tavern, much to the disapproval of their seniors, many of whom were reluctant to oppose the King's Government. Soon after the news of the Battle of Lexington was received, these active young patriots, including Noble Wymberly Jones, Joseph Habersham, Edward Telfair and others, raided the King's Magazine and took about six hundred pounds of powder for the use of the Revolutionists. This spectacular service, apparently has not impressed the minds of Georgians in the same effective way that the memory of the service of Paul Revere has been imperishably fixed in the minds of New Englanders. I find that many Georgia school children do not know of our Georgia patriot, Noble Wymberly Jones, but respond at once when asked about Paul Revere. Dr. William Bacon Stevens in his history refers to our Georgia patriot as the Morning Star of Liberty in Georgia. He should be better known to Georgia school children.

At the time of the capture of Savannah, Dr. Jones lost his oldest son, who was killed during the siege, and lost control of his properties which were confiscated and sold by the Governor of the Crown Colony. Dr. Jones moved to Charleston and undertook practice there but was captured and imprisoned by the British; later he was released and practiced in Philadelphia where he was befriended by Dr. Benjamin Rush. After the war was over Dr. Jones returned to Savannah, and a second time located in Charleston, finally returning to his home in Savannah. During his last year he organized and became the first President of the Georgia Medical Society. He was a recognized leader of the profession, excellent in both medicine and surgery, being especially skilled in obstetrics. His death from pneumonia in January, 1805, resulted from exposure, when in his eighty-first year, in one night he visited and delivered four women in childbirth. He was the father of fourteen children, only one of whom survived him, Dr. George Jones. Dr. Jones was a man of general culture, despite his limited op-

portunities for formal education. His civic and military services made him known to Washington and many of his generals. He was the friend and co-worker of Rush, Franklin and Ramsey. His character was of the highest quality, his temper kind and benevolent in all his relationships. He is often referred to as the Benevolent Jones.

The Jones-DeRenne family has given doctors to Savannah, many of whom have been distinguished as civil officials, legislators and jurists. Great as were their medical services, their contribution to government, society and literature was even greater.

During all these years, medical practice in Savannah has tended largely to be family practice. In many instances the family practice continuing from father to son in several generations. This has been especially observed in the Charlton family in which, during five generations, there have been four physicians named Thomas Jackson Charlton—one generation being represented by a jurist, who was Mayor of Savannah at the time of the great epidemic of 1820. Dr. T. J. Charlton II served as medical student in the epidemic of 1854.

Dr. William R. Waring, who initiated the first campaign to control malaria in the United States, had seven descendants who were doctors. Six of these have practiced in Savannah and practically every one, in addition to his medical duties, has rendered distinguished service to the community in civic and health activities.

The Harris family has furnished five doctors for Savannah and neighboring communities, including Dr. Stephen N. Harris, who died of yellow fever while serving the citizens of Savannah in 1854.

The Habersham-Clay family, while not represented among the founders of the Georgia Medical Society, has had several physicians among its later members, including Dr. Joseph Clay Habersham, Jr., who was the health officer of the City of Savannah for several years.

The LeConte family has had several physicians in its circle, some of whom practiced medicine in Savannah and vicinity.

*Interior View
of the
Hall of the
Georgia Medical
Society,
Savannah*



though most of these were more distinguished as scientists.

The following families have had two or more representatives in medicine: Barnard, Bulloch, Chisholm, Cuyler, Daniell, Dunn, Ganahl, Herndon, Heriot, Howkins, Jarrell, Johnson, Kollock, Lanier, LeHardy, McGee, Morrison, Nunn, Norton, Owens, Read, Schley, Sheftall and Usher. This tendency to family practice and this tradition of family service in medicine have had beneficial effects on the practice of medicine and the advance of public health in our community.

I will now briefly review some of the early progress made by the Georgia Medical Society. In the first period from 1804 to 1820, we have no minutes and the historical material is scanty and scattered. During this period the society accomplished among other things, the following:

- I. Medical organization.
- II. Adoption of a code of Medical Ethics.
- III. Systematic vaccination against smallpox.
- IV. Topographic health surveys of Savannah and neighboring communities.
- V. The founding of a medical library.
- VI. The systematic study of endemic and epidemic fevers.
- VII. The commencement of dry culture for rice lands near the city—the

first systematic anti-malarial work in the United States inaugurated.

The medical organization was effected in 1804 and a charter from the Legislature was granted December 12, 1804. The purpose of the organization was stated to be "for the purpose of lessening the fatality induced by climate and incidental causes and improving the Science of Medicine."

Dr. Noble Wymerly Jones was the first president, and after his death was succeeded by the vice-president, Dr. John Irvine, who had remained a loyalist during the Revolutionary War and removed to England, returning to Savannah on the resumption of peace. He was a well educated physician, and had the confidence of the community. Dr. John Grimes was Secretary. During the next twenty years we do not know all the officers except that Dr. Lemuel Kollock and Dr. James Bond Read, Sr., served as presidents and that Dr. Thomas Schley was Secretary and Dr. John A. Casey was Treasurer, the latter dying in the epidemic of 1819-20.

A code of Medical Ethics was adopted. One interesting section of this code forbade physicians to engage in duelling, when the cause of disagreement was due to a professional matter.

In 1805, to control smallpox, which had become epidemic, the Medical Society offered to vaccinate poor citizens with cowpox, without cost. In 1800 a pest-house

had been established, but some conflict with the state authorities arose over the use of inoculation of smallpox virus for immunization, this process having been forbidden by law, since it occasionally, when not properly supervised, was the means of spreading the disease. In 1816 vaccination was made compulsory. The Medical Society has liberally supported the enforcement of these laws, its members giving their services free to the poor. As a result Savannah is the only community in Georgia and one of the few communities in the South where vaccination is compulsory by law. An ordinance of the city required vaccination with re-vaccination every seven years. A state law especially for Chatham County is in operation in the rural districts—these laws are well enforced and have the full approval of the community.

One of the first acts of the Medical Society was to direct a topographical survey of Savannah and vicinity for health purposes. The Dry Culture system adopted in 1817 was based partly on information secured in these surveys. The first survey was ordered in 1805 and made by Dr. Joshua E. White, a founder, who later made a similar survey for the City of Waynesboro.

The necessity for a medical library was understood from an early period of the colony. Stephen Hale, the eastern physiologist, was one of the trustees and in his will left his books to be distributed to found a library in the colony of Georgia. To improve the science of medicine, the Medical Society established a medical library at an early date. In 1801, the Savannah Library Association had been formed, but no great amount of active work done. In 1801-1809 the Medical Society combined with the Savannah Library Society and made provision to occupy a room to be finished at the cost of the organization in the proposed new Chatham Academy Building. The building was finished about 1812 and occupied until 1839 when at the time of the founding of the Georgia Historical Society, the Savannah Library Association was incorporated in the Historical Society and moved to other quarters. The Medical Society continued to maintain its

library in the Chatham Academy until about 1871, at times using the rooms also for Medical Society meetings.

The collection of books was small, though increased after 1854 by exchanges secured by the Savannah Journal of Medicine. In 1865 the city was occupied by Federal troops who used the building for barracks and the collection was almost entirely lost, but rapidly increased after removal to the Georgia Historical Society in 1871. In 1909 the books were placed in the City Health Department and in 1914 in the new Hall of the Georgia Medical Society. After the Great War the collection was divided, the more modern portion being placed in the Savannah Public Library, the older portion being placed in trust in Duke University. At one time the collection contained about eight thousand books, ten thousand pamphlets and letters, fifty journals, also full files of the *Index Medicus* and the *Index Catalogue* and most American journals.

This library is, therefore, one of the earliest established in the United States, only six libraries now existing having been established prior to 1800, as follows:

Three in medical schools and universities, Yale (1701); Dartmouth (1797); Chapel Hill (1795).

One in Medical Society College of Physicians of Philadelphia (1788).

Two in hospitals—Pennsylvania Hospital (1762); Philadelphia General Hospital (1800).

Only one library in the South was founded prior to 1809—that at Chapel Hill.

The most important objective of the Medical Society in the period from 1804 to 1820 was "the lessening of fatality due to climate and incidental causes" especially the endemic and epidemic fevers or, as the term was commonly used "autumnal fevers." This subject is so connected with the beginning of the dry culture system or malaria control that they will be considered together.

For some reason unknown and which we now can only surmise, Savannah did not have, prior to 1800, the great epidemics of yellow fever which so devastated this

city, even reaching to New York and Philadelphia. Yellow fever is first mentioned seriously in Savannah in 1801, though unquestionably occurring sporadically at least, earlier. The first mention in Charleston is in the year 1693 and twenty-three times between that date and 1800 the disease is recorded. Possibly the lack of numerous new emigrants in Savannah, or the prevalence of the disease in mild form in a population changing little and which was then fairly immunized was the factor. Possibly the *Stegomyia* mosquito which was undoubtedly introduced from the tropics had not yet become common.

It is true that in October, 1740, only seven years after the establishment of the colony, we find the following reference to "autumnal fevers" and to the occurrence of yellow fever in Charleston in the Journal of William Stephens, Secretary to the Trustees. "The fall of the leaf produced a sickly season with us of various kinds, fluxes, dry gripes, lingering fevers, etc., that, within two months past has carried off seven or eight people, which is more than died in the whole year before. And from the Charles Town we hear of a dangerous distemper which they call the Yellow Fever from the corpse immediately so changing after death, and it is observed to have proved most fatal for newcomers whereof many have been taken off. Such as we have lately lost have been weakly people and children for the most part."

In studying the health records of the early part of the nineteenth century, we must remember there was still great confusion in the classification of fevers, a confusion which was not cleared until the work of Louis in France and Gerhard in America became known to the medical profession, most of whom in the decade 1800-1810 followed the teachings of Boerhaave and Cullen. This knowledge was slow to reach those parts of the South which did not have physicians who had studied under Louis of Paris or under Gerhard of Pennsylvania. Bruonianism had captured the fancy of many and Broussaisism was beginning to be formulated. The modern reader finds great confusion in attempting to follow the writings of the

time. Great emphasis was laid on theory and little attention paid to etiology, except for the more general factors. Clinical entities were not well established. Greatest emphasis seems to be placed on "miasma" and great attention paid to meteorologic conditions as influencing epidemics. No wonder most of our predecessors failed to unravel the difficult epidemiology of an insect borne disease. Doubtless future generations will look back and wonder at the mistakes of the present generation of Doctors of Medicine.

The clearest description of endemic and epidemic fevers available in America in 1800 was unquestionably to be found in the writings of Dr. Benjamin Rush. Yet Rush seems to use the same terms, bilious remittent fever for the malarial fevers, for yellow fever and for dengue. This confusion continued in places as late as 1870.

The members of the Georgia Medical Society have left a number of essays on fever, written in the first half of the nineteenth century, which are of interest especially since the Medical Society sponsored and helped put into effect a system of dry culture which had a marked effect in reducing such fevers, or at least, one class of them.

In the early death records the term, yellow fever, is rarely found. This is partly because prior to 1809 the yellow fever was uncommon, partly due to the fact that many used the term bilious fever, not only for cases of malaria, but for what probably were cases of mild yellow fever. Malignant fever was the term used for all vicious or fatal types of fever, more especially typhoid. The term, worm-fever, was used almost without exception for the fevers of children.

In the *Planters and Mariners Medical Companion*, published by Dr. James Ewell of Savannah in 1807, only three kinds of fever are mentioned; (1) Intermittent, or ague and fever, (2) Remittent, or bilious fever, (3) Nervous fever. Yellow fever is not mentioned, but in the index is mentioned as a synonym of bilious fever. This manual is apparently the first book on popular medicine published in America. It was advertised in the *Columbian Museum*

and Savannah Advertiser, and much opposed by the medical profession as an unethical publication. Over twenty editions were issued and the book much improved, becoming a popular physician's manual. The motto used on the title page pleases a health officer and reads as follows: "Of the hundred blessings conferred on man in this life, health makes a good ninety-nine." The book contains excellent advice, and would not be censured, I am sure, by the medical profession at this time.

In 1809, following the epidemic of yellow fever at St. Marys, Georgia, in 1807-8, yellow fever began to appear in Savannah. Of the four doctors who attended patients at St. Marys, three died — Drs. Stowell, Ross and Turner. Dr. Nicholas S. Bayard, one of the founders of the Medical Society who had a plantation on Cumberland Island, served also as attendant, but escaped only to succumb in 1822, undoubtedly from the same cause.

The members of the medical profession at that time were practically in accord that yellow fever was of local origin and not imported, that it was not directly contagious, that it was air-borne and due mainly to miasmas from near-by swamps, that its incidence was influenced by hot weather and by unsanitary conditions in the city. Some, in fact most, believed that it arose as a modification of the more common and milder endemic autumnal fevers. One Savannah physician of great intelligence was so convinced of the passage of virus through the air from certain areas outside the city, that he recommended that during the sickly season the windows of his patients be kept closed on the north and east sides facing the river and marsh. The house in which this physician lived had windows permanently closed on the eastern exposure.

In 1817 the Medical Society on the advice of Dr. William R. Waring, then alderman of Savannah, advised certain methods of control over rice fields on Hutchinson Island north of the city and over rice fields immediately east of the city. For rice culture, it was necessary to flood these fields and the miasmatic virus was thought to be from that source. No one thought of mosquitoes as by any possibility having

any relationship to disease. In searching Rush's papers, I find the following footnote to his paper on Bilious Remitting Fevers, in 1780 in Philadelphia: "The muschetoës were uncommonly numerous during the autumn. A certain sign (says Dr. Lind) of an unwholesome atmosphere."

As a result of Dr. Waring's advice, supported by the Medical Society, the City of Savannah, then with a population of only 5,000, white and colored, young and old, issued bonds and spent \$70,000, or \$14 per capita for dry culture, or the permanent drainage of the rice fields near the city, and the prohibition, by provisions made in the deeds that such lands be used only for dry culture. The whole system which cost the city \$200,000 with a large yearly expense for maintaining drainage had an immediate good effect on malarial fevers and was the first work of this kind done in the country "for the prevention of malignant and pestilential fevers." We know now that this improvement would have no effect on yellow fever, since the *Stegomyia*, or *Aedes Aegypti*, does not breed in water standing on the ground. As a matter of fact, yellow fever gradually increased until 1820, when the first great epidemic occurred with 666 deaths in a population averaging about three thousand, or about one death in fifty. The general effect, however, was good for in the three years before the epidemic and under wet culture, the ratio varied from one death in ten to one death in eighteen; after the epidemic under dry culture from one death in thirty-two to one in thirty-seven.

Dr. Waring's book on the epidemic of 1820 is full of interest. He clearly used the term, bilious remittent fever, as a synonym of yellow fever and believed in miasmas as the cause. He seems to have recognized the presence of mild cases of yellow fever and narrowly escaped the inference that the epidemics come as a result of the endemicity of mild cases. The evident lack of direct contagion as a factor was in the way of a correct inference, as the doctor, who was soon to become and remain for twenty years the leading physician of the city, failed to secure the full solution of the situation. His work, how-

ever, remains as the most outstanding piece of health work done in Savannah. Drainage work has been continued and extended to the present day.

Since the discovery of the relation of the *Anopheles* mosquito to malaria, the dry culture work has been modified and expanded. In the year 1925, as health officer I had the pleasure of recording for the first time in the history of the city that not a single death was caused by that disease. This was the final triumph of the work begun by Dr. Waring in 1817.

In the epidemic of 1820, five physicians died, including Dr. Richard McAllister Berrien and Dr. John A. Casey, Treasurer of the Society. The Medical Society was disorganized, its minutes lost and its resources temporarily dissipated.

Two interesting physicians lived in or resorted to Savannah during part of this early period.

(1) Dr. John Eaton LeConte, grandfather of John LeConte, who studied the Natural History of Georgia and Florida and produced with his son, Dr. John Lawrence LeConte, eight volumes of illustrations of animals and insects of Georgia. (2) Dr. John Brickell, a botanist and physician, a writer on both scientific and medical subjects.

In the period from 1820 to 1861 the following events are worthy of notice:

(1) Adoption of a law in 1821 authorizing the Georgia Medical Society to make examinations of candidates and issue medical licenses for a period of five years. Prior to this there had been no license required in the colony and young state. Anyone, prepared or not, could practice medicine, if he could find persons willing to accept and pay for his services. Not only did this encourage many outright quacks, but also it enabled chemists and apothecaries to prescribe medicines of which they had some knowledge, for diseases of which they were ignorant.

(2) In 1823 a law requiring registration of births was passed. This does not seem to have been enforced to any extent. Not until 1876 (or thereabouts) was a general law for the reporting of deaths and births secured. This was enforced only

in cities. In 1914 against the active opposition of the State Board of Health, the Georgia Medical Society and Medical Association of Georgia secured the passage of the standard Vital Statistics Law. In 1919 funds were provided for the enforcement of this law with the support of the new State Board of Health and Georgia put in the registration area.

(3) In 1826 a general license law for medical practice was passed for the State of Georgia superseding the law authorizing the Georgia Medical Society to examine candidates and issue licenses. The Medical Society for some time continued to claim the right to issue licenses and through its power to accept or reject candidates for membership exerted a selective action on the medical profession in Savannah.

(4) In 1826 dry culture was continued and controlled and Dr. Wm. C. Daniell issued his book on the autumnal fevers of Savannah. Dr. Daniell served two terms as Mayor of Savannah and advanced the health interests of the city. He was a firm believer in dry culture and in his book gave tables of vital statistics estimating the exact health value of this measure. His book contained nothing new as to the theory of fevers but he advocated a more stimulating treatment and opposed depressing and depleting methods. His writings were characterized by candor as shown in the following quotations. Despite the fact that he was well-educated in the profession, with a degree from the University of Pennsylvania, he states, "It was my misfortune at the commencement of my medical career, to engross a larger practice than my experience authorized." Many a young doctor has had the same feeling, but few have acknowledged it.

Again, he states a truth that we now appreciate more fully than did Dr. Daniell's contemporaries: "The greatest advantage which I derived from the study connected with my own observations was a settled conviction that the character and treatment of our autumnal fevers were yet to be learned." Such statements were unpopular with the medical profession of the day and Dr. Daniell was further criticized for his quite severe strictures on the medical pro-

fession in this city of the South. He was, however, an excellent physician, and successful in the business of medicine and a loyal son of the South in her time of need, devoting almost his entire estate to the support of the Confederacy and dying a poor man.

(5) In 1826, under the leadership of Dr. George Jones and Dr. James Bond Read the elder, but with the support of many citizens, an Anti-duelling Association was formed. Dr. George Jones had served two terms as Mayor of Savannah and four terms as alderman. He was a man of undoubted courage and high standing. Largely due to his influence and to the wise conduct of the Anti-duelling Society as well as to other causes, duelling gradually became less common and finally ceased. Ridiculous accounts of some of the quarrels leading to challenge as reported in the newspapers were a large factor in its elimination as was also the law requiring candidates for office to subscribe to an oath stating that they had neither given nor accepted a challenge nor been instrumental in arranging a conflict.

Physicians had taken a rather large part in such occasions, sometimes as principals, more often as seconds and still more frequently as surgeons. In early times resort to the duel was common. Dr. Arnold in writing of Dr. George Vinson Proctor, one of the founders of the society states "George Vinson Proctor was a marked man. My only personal recollection of him is when I was a boy I saw him going up over the bluff on his return from fighting a duel across the river which was a way that gentlemen had about that time and these parts." Dr. Arnold was later to accept a challenge to a duel, but the committee of the Anti-duelling Association secured an understanding of the difficulties between the parties without loss of honor. Three times doctors yielded up their lives on the field in defense of honor. More frequently they served on committees of conciliation or in cases which could not be honorably adjusted, as attending surgeons saving life rather than taking it. At the time when legal measures were threatened against all who took part in duels, physicians were in

some doubt as to their duty in giving attendance on duels and the matter was debated in the Medical Society, the decision leaning, as usual with our profession, to the side of humanity.

The period from 1830 to 1840 was one of peace, prosperity and healthfulness. Dr. James Bond Read, Sr., had been president of the Medical Society from 1822-1827. He was succeeded by Dr. William R. Waring who was the most prominent physician of his time and who presided over meetings of the society until nearly 1841. During this period the society was re-incorporated and improved. For a time the members were termed Fellows, but this formality seemed inappropriate for so small an organization and was soon dropped.

From time to time the Society adopted fee bills and attempted to enforce compliance with the same. Such efforts were in the main futile and only active in arousing contention.

Of this period Dr. John S. Morel, a graduate of the University of Pennsylvania, writes in answering a letter of inquiry from one of the later secretaries:

"On entering practice in Savannah in 1832 I found the medical profession represented by Drs. Daniell, Waring, Screven, Bartow and Habersham; these held the first rank. Drs. Wilkins, Richardson and Arnold, the second. The first named gentlemen were men of wealth and their success in the practice of their profession gave them a kind of authority upon all medical questions. The autumnal fevers of Savannah and their treatment engrossed their attention, but their views were somewhat antagonistic. These views were set forth in their publications to which I refer you for further information: Daniell on Fever, and Dr. Waring's work on the same subject. The treatments of these fevers were in accordance with their theories—the one tonic and *restorative* (Bruonianism); the other antiphlogistic, soothing (Broussaisism) antiphlogistic, if I may use that word which is almost obsolete. The difference in the treatment may be represented in the difference there is between beefsteak and brown stout; and between gruel and gum water. Notwithstanding these differences in their

theory and practice, both of these gentlemen were considered eminently successful as practitioners.

"Our Autumnal fevers were by one party supposed to merge frequently into yellow fever and many entertain the same erroneous opinion even in our day. These fevers were regarded as the offspring of Mal Aria but what it was that made the air bad was not known at that time and is not even unto this hour." This was written in 1887 in remembrance of the events of 1830-1840 when Dr. Morel was seventy-six years old.

Dr. Morel continues, "Neither from the thirties nor the forties did my memory bring forward epidemics of any nature referred to by you—no typhoid—none of the exanthems, only measles seemed to approach an epidemic: scarlet fever never; as for the disease known as diphtheria, it was not known in these years. Even our bilious remittent fever had declined. this disease in the twenties, thirties and forties became less and less formidable, even endemically."

In 1839, the Georgia Historical Society was formed, with Dr. Arnold taking chief interest and Drs. Cuyler, Carruthers, Bartow, Daniell, Habersham and P. M. Kollock as charter members. Our own physicians usually seemed to take more interest in general history than in the history of their own profession and society.

In 1847 the American Medical Association was formed, the first suggestion for such an organization having been made by Georgia physicians. Dr. Richard D. Arnold then and for nearly thirty years afterwards the leading physician of the city, was a delegate from the Georgia Medical Society to the first meeting in New York in 1846, in which plans were made for the new society and was chosen as one of the two secretaries of the society, selected at the first meeting. One of the first outcomes of the new organization was the attempt to get a law passed requiring exact registration of births and deaths.

In 1849 a State Medical Society, the Medical Society of Georgia, now known as the Medical Association of Georgia, was organized. This organization was formed at the suggestion of the Georgia Medical

College of Augusta. Dr. Arnold was chairman of the committee which wrote the constitution of the state society in 1849, was elected vice-president the first year and president in 1851. Medical organization was now complete, except that county societies were not provided for in all counties and the interrelationship of local, State and National organizations was still rather indefinite.

In the decade 1850-1860, many advances were made in medicine, favorably affecting the Medical Society.

In 1853 the Savannah Medical College was organized with Dr. Arnold as Professor of Medicine. On the faculty of the new organization was a young newcomer, Dr. H. L. Byrd, who in 1855 organized a rival college, the Oglethorpe Medical College.

The educational institutions offered the advantages of systematic medical education to local students who could not afford to attend colleges at the great medical centers and superseded, or rather supplemented to a great extent, the education of physicians by preceptors. The advantages claimed were as follows:

(1) Superior educational ideals. (2) The teaching of Southern diseases under Southern conditions by Southern practitioners. (3) The teaching of the medical and surgical conditions of the Negro race.

To a certain extent these claims were justified, though no systematic instruction was given concerning Negroes, as in that time Negro patients were not generally available for clinical teaching purposes. There was much rivalry, often keen and at times bitter, between these institutions. At one time their differences were aired before a committee of the American Medical Association which made a sensible decision in regard to the point at issue. The medical school had an excellent influence on the quality of preparation of Savannah physicians. Fully as many of the doctors as formerly still resorted to the older medical schools and received post-graduate instruction in Edinburgh and Paris. Fewer depended on preceptors alone.

In 1858 the faculties of the two institutions issued medical publications, *The Savannah Medical Journal* and *The Ogle-*

thorpe Medical and Surgical Journal. Both institutions closed at the time of the War Between the States and their journals ceased publication. The career of the Oglethorpe Medical College and its attendant journal was at an end. The Savannah Medical College was revived in 1866 and operated until 1881. The journal was resumed as the official organ of the Georgia Medical Society. Other local medical publications of short life were the *Georgia Journal of Medicine and Surgery*, published in 1897 and the *Georgia Practitioner*, published in 1905. Both journals were short lived.

The names of two physicians of national prominence were associated with these schools and deserve brief mention—Thomas Holly Chivers and Joseph Jones.

Dr. Thomas Holly Chivers, of Decatur, Georgia, the poet, was elected to the Professorship of Physiology of the Oglethorpe Medical College in 1858. On account of his health he did not fill the position and probably never located in Savannah. Three of his short essays, prepared for use before his classes, appear in the first volume of the *Oglethorpe Medical and Surgical Journal*. The notice of his death the same year appears in the same volume.

Many of our members wrote essays on medical subjects, but few engaged in general literary labors. Dr. Joshua E. White, one of the founders, was stated by Dr. Arnold to be a literary man, but the writings of Dr. White which are available are all on medical and health subjects, and well written.

Dr. Thomas Jackson Charlton II published in 1842, with his brother, Robert M. Charlton—a lawyer—a book of graceful poems.

Dr. William Bacon Stephens, elected to membership in 1837 and active in founding the Georgia Historical Society, later published one of the best of the histories of Georgia.

Dr. William A. Carruthers wrote a highly esteemed novel which was published in *The Magnolia*.

The letters of Dr. Richard D. Arnold edited by Dr. Richard H. Shryock of Duke University, while not originally intended for publication, are written in a trenchant

style and are of more than local interest.

In 1867 Dr. James S. Morel translated from the French the lectures of the great physician, Claude Bernard, on the Physiology of the Heart and presented his translations in a series of lectures to the Society.

Dr. J. J. Waring and Ernest Delmold in 1878 translated Ferdinand Cohn's *Recherches of Bacteria* and brought the first accurate knowledge of germs to many of the members of the Society.

The writings of those members of the LeConte family who lived for greater or lesser periods in or near Savannah, dealt with subjects of Medicine, Public Health, Chemistry, Physics, Geology, Natural History, Education and Biography. Their writings are widely known and appreciated.

The poems of our living honorary member, the Poet-laureate of the Society, Dr. Ralph Thompson, are still enjoyed by the Society.

Dr. John LeConte, a native of Liberty County, Georgia, and graduate of the University of Georgia, practiced in Savannah from 1842-1846. He was by all odds the most scientific doctor who practiced in Savannah. He was a constant attendant on medical meetings and active as Treasurer and Librarian for several years. Dr. LeConte's papers were models of medical science and not infrequently contained original observations. He first introduced the experimental method, writing of his own experiments. Dr. LeConte made contributions to the physiology of the central nervous system by his experiments on decapitated alligators. His studies on the statistics of cancer resulted from his observations of the disease in Savannah. He was the first observer in America to note that cancer was increasing. His conception of the vital index or the ratio of deaths in any particular disease to that element of the population susceptible to the said disease was an original contribution of great value to preventive medicine. His subsequent career and that of his talented brother, Dr. Joseph LeConte, are well known, since both brothers were successful teachers in the University of Georgia, the University of South Carolina and the University of California.

Dr. John LeConte is known internationally for his contributions to the science of physics, in addition to the medical researches described above.

Dr. Joseph Jones also a native of Liberty County, Georgia, was appointed Professor of Chemistry in the Savannah Medical College and taught a short time. He was probably a member of the Georgia Medical Society, but I can find no record of his work in Savannah except in the considerable collection of local medical historical material gathered by Dr. Jones and deposited in the Library of Tulane University where Dr. Jones did his best work as Professor of Medicine. Dr. Jones held an appointment as Inspector General in the medical department of the Confederate army and made interesting studies on many subjects, including hospital gangrene, complications of vaccination against smallpox, etc. He also made important contributions to public health. Dr. Jones and Dr. Arnold were the most distinguished physicians of Savannah and were of national reputation.

While Savannah produced many excellent surgeons, no surgical worker of first rank developed in our Society. Garrison, in his *Introduction to the History of Medicine*, stated that Dr. John Murray Carnochan of Savannah, Georgia, was the first surgeon in America to excise the superior maxillary nerve and Meckel's ganglion for facial neuralgia and was the pioneer in certain operations in bone surgery. Prof. Carnochan was born in Savannah, Georgia, but never practiced there and all his brilliant original work in surgery was accomplished in New York City.

To return to Savannah, in the midst of the prosperity, medical and otherwise, of the period between 1850-1860, when the medical school was just getting a start, came the epidemic of 1854, with but little warning. Dr. Richard Arnold was then the leading practitioner of the city. Owing to the benefits of the dry culture system, bilious fever of malarial origin had decreased. The epidemic found 1040 victims in a population of 16,000 people. The fatalities in 1820 had been largely among new comers, especially of the laboring

classes and included five victims among the devoted physicians of the city.

In 1854, all classes, including old residents of the better class, were involved in the catastrophe, which took the lives of ten doctors and two students in the newly started medical school. Dr. Arnold in the prime of his life, attended hundreds of cases and wrote the history of the epidemic in his well known "Essay on the Relation of Bilious and Yellow Fevers," illustrated with lithographic colored plates of the livers of yellow and bilious fever. In 1850 Dr. Arnold described a local epidemic of dengue, and recognized the separate identity of this disease. Dr. Arnold clearly distinguished between yellow fever and bilious fever considering them entirely different. In this he differed from the opinion of his preceptor, Dr. William R. Waring, who considered yellow fever as a special malignant form of bilious remittent fever. Both observers considered yellow fever as not directly contagious and believed it to be of local origin and not imported. Meteorologic conditions were given as the local general causes of the epidemic.

It is extraordinary how general was the opposition of the members of the Society to the theory that yellow fever was imported in early and middle periods. The opinion was practically unanimous. Opposition to maritime quarantine was a necessary corollary and was determined and sometimes bitter in its manifestations. This could not be due to lack of courage on the part of our doctors—much evidence is against this possible reason. Perhaps some were influenced by the attitude of merchants which was generally hostile. Opposition resulted largely from the undoubted fact of contagion by contact in yellow fever and by the failure to recognize the prevalence of mild cases in inter-epidemic years. It required another epidemic, that of 1876, to convince the community of the possibility of excluding yellow fever by quarantine.

Savannah had barely recovered from the epidemic of 1854 when the War Between the States came. Time lacks to tell of the heroic sacrifices made by the medical pro-

fession in that conflict. This story must be told elsewhere. Practically every member of the Society served his State and county either at the front or in hospitals in the rear, either in Savannah or in other cities. I pass over this period in this short medical history, referring you only to a rare journal—the *Confederate Medical and Surgical Journal* in which there is a reference to the worth of a young Savannah doctor, Dr. James Bond Read, Jr., in charge of the officers' hospital in Richmond.

The war and the distressing times after its close wrought many changes. The city was impoverished, many of the doctors had lost all their fortunes. The medical school had closed, the journals had ceased publication, the medical collection and library volumes were scattered and lost, the hospitals were in use as military hospitals or crowded with Negroes. The city was filled with refugees, bringing with them in epidemic form smallpox and cholera with yellow fever threatening as a cloud.

Back from the War and the hospitals came the members of the Society and took up their accustomed round of duties. It may be questioned whether this did not require as much or more courage than service in active warfare.

I will close this rather long account with a brief reference to the epidemic of 1876 and the final development of our system of quarantine, which has efficiently protected our city since that time.

Time does not allow, also, other than a brief reference to improvements made from time to time in the water system in which Dr. James P. Screven took great interest, and in the improvement of the privy system and installation of sewers in which both Dr. William R. Waring and Dr. J. J. Waring took special interest.

The epidemic of 1876 came at a time when the city was beginning to recover from the War. In a population of about 30,000 people there were 1,591 deaths of which 922 were due to yellow fever including five physicians. A much larger mortality in Negroes occurred than in 1820 or 1854.

Dr. J. J. Waring became the historian of the Savannah epidemic of 1876. (Epidemic at Savannah 1876—Its Causes, The

Measures of Prevention). A committee of the Medical Society was appointed to investigate the causes of the epidemic and recommend remedies. Much vigorous discussion resulted. Talk of germs was becoming common. Clinical concepts of fever were much more definite than in previous epidemics. Evidence was accumulating that yellow fever was introduced from without. The profession was still far from the truth which was to be reached only through the scientific work of Dr. Walter Reed and his colleagues and the practical application by Generals Gorgas and Wood.

The presence of yellow fever in neighboring communities or elsewhere in the South made the subject one of immediate interest in the years following 1876. As a result of all the play of opinion the following advances in health were secured in Savannah:

- (1) The gradual evolution of an efficient quarantine, at first in the hands of the city, later transferred to the United States Marine Hospital Service.

- (2) The establishment of an efficient and, in fact, independent Board of Health, the Board of Sanitary Commissioners.

- (3) The selection of a full time, efficient and trained health officer.

- (4) The development of efficient health laws.

In 1878 the last tragic death from yellow fever among our doctors occurred. In the three great epidemics over twenty of our doctors had sacrificed their lives to duty. If to these were added those who died in nearby localities, the number would reach nearly thirty. Many of our physicians in times of epidemic elsewhere have answered the call, not of duty in this case, but of humanity and have left the city to serve communities in which pestilence was raging. One of these cases was most lamentable in its result, since it caused the death of a young Savannah physician just started in practice and a non-immune to yellow fever. A call for help came from Memphis, Tennessee, where yellow fever was raging. Volunteers were called for. Dr. Cheves offered his services as did others who were immune. This young doctor left Savannah on August first, and by the twenty-fifth was dead from the disease. He should not

have been allowed to go, with immune physicians available and willing.

Much of the progress of the community in health was due to the character of the first full time health officer, my predecessor, Dr. William F. Brunner. Having recovered from yellow fever in 1876 and afterwards studying medicine, he offered as a volunteer to aid the stricken people of Vicksburg in 1878. Subsequently having training and experience in the United States Marine Service as Quarantine Officer, in 1888, he was recalled to be health officer of his native city. He at once put quarantine on a firm basis, and kept it so, an accomplishment in which no health officer preceding him had been entirely successful. He secured regulations providing for the selection of quarantine officers by competitive examination on their qualifications, education and experience, and later applied the same method to the selection of other health officials. In 1899 the Quarantine Station was transferred, by recommendation of Dr. Brunner, to the United States Marine Hospital and Public Health Service.

Dr. Brunner was a physician of firm character and great executive ability and gradually with public approval and with the support of the Medical Society, improved and modernized the health department. He at once enforced prompt reporting of births and deaths, making these records fairly complete for the first time in the history of the city. He secured good health laws and developed a system of reporting communicable diseases both in their active stages and in the suspicious stages. He improved the water supply and the milk supply and established a modern diagnostic laboratory. In 1922 he was presented with a magnificent silver service by the city and retired on full pay as Consulting Health Officer.

The long study which the writer has made of the health records of the city of Savannah and of the other historical material referred to in this paper has at times brought a feeling of sadness, that so many of our profession have labored and passed on, leaving so little in the memory of the people whom they so faithfully served. Our profession has been called "the silent pro-

fession," and truly many, very many, when their earthly labors have been dutifully accomplished, seem to have entered into the long silence. For of many, only the names remain. "And many more whose names on earth are dark" as the quotation goes, for little information can be obtained of their professional or personal life. Truly though the doctor is undoubtedly appreciated during life, after death he too frequently becomes "the forgotten man." Scanty information is available even of the eighteen pioneer physicians who formed the Georgia Medical Society—with a very few notable exceptions.

As I pen these words, my mind reverts to the noble sacrifice of a young physician of Georgia, Dr. Ebenezer Stowell of Brunswick, Georgia. At the time of the epidemic of yellow fever at St. Marys, Georgia, in 1808, Dr. Stowell offered his services with that of three other physicians to the stricken community. Three, including Drs. Turner, Ross and Stowell, died. Only a line in a medical report, which does not even give the full name, remains to tell the story, supplemented by the melancholy advertisement of his administrator. His grave is unmarked and lost, all other records of his life and labors gone. Only the grateful memory of duty done—yes, more than duty accomplished, since he voluntarily served strangers beyond the gates.

TWO PHYSICIANS AND TWO PERIODS IN THE MEDICAL HISTORY OF GEORGIA

Being accounts of the lives of Dr. Joshua Elder White of Savannah and Dr. Alexander Jones of Lexington, and brief history of medical progress during their periods of activity in Georgia.

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Dr. Eugene Foster, in his excellent account of the development of medicine in Georgia, published in *Memoirs of Georgia*, states that satisfactory biographies of the men who were prominent in medicine in Georgia are sadly lacking. In attempting to

*Deceased.

gain information for a history of the Georgia Medical Society, the writer has confirmed this opinion. In the early colonial and provincial periods, medical information is scanty. An eminent authority has stated that the medical history of those periods in Georgia will never be written, since the basal material for such a history was never collected and preserved. For the period of young statehood, the situation is even worse. During the first two decades of the Nineteenth Century, historic material, while more abundant, is still insufficient. During the third and fourth decades, the minutes of the Georgia Medical Society and publications in the medical and scientific journals, then available, make the task comparatively easy.

The present writer has been engaged in collecting biographies of the founders of the Georgia Medical Society and preparing brief accounts of the progress of medicine in Georgia in the first half of the Nineteenth Century. In the paper here read, some of this material is presented; a biography of Dr. Joshua E. White of Savannah and an account of his influence on the Georgia Medical Society in the period of founding and early progress; also a biography of Dr. Alexander Jones of Lexington, Georgia, and his relation to the Central Medical Society of Georgia.

Neither of these two Georgia physicians made any contributions to medicine which will insure that their names be remembered, except perhaps locally. The story of their lives and of the progress made in the two medical organizations with which they were connected, presents a picture of medical practice in Georgia during the two periods, 1800-1820 and 1820-1840. Dr. Jones made a contribution to the progress of civilization of a non-medical character, but of great importance, and he should be remembered as the originator and organizer of the plan of collecting and distributing news by the electro-magnetic telegraph.

Until recently, the only information available concerning Dr. White was that he was a founder of the Georgia Medical Society. Dr. Arnold in 1868 wrote briefly, "Joshua E. White was more distinguished as a literary man than as a physician. His imme-

diate descendants left the city many years since."

Dr. Joshua Elder White (1775-1820) was a native of Pennsylvania, a descendant of the White and McAllister families of that state. It is likely that prior to 1784 the family moved to Georgetown, D. C., where young White probably received his elementary education and possibly also his medical training. The details are unknown, but it is probable that he studied medicine under the apprentice system and did not have a medical degree. Collateral evidence indicates that Dr. White had an able preceptor and received excellent training in medicine.

Prior to 1801 Dr. White moved to Georgia and married Amelia Fox, daughter of Benjamin and Mary Fox of Columbia County, Georgia. To this union six children were born, three dying in infancy and three reaching adult life. Steele White, a son, was a soldier in the Confederate Army and was killed in the fighting around Richmond in 1862. Descendants of the name of White and Jackson are recorded.

In 1801 Dr. White is known to have been in the active practice of medicine at Waynesboro, Georgia, and was selected to deliver the oration on Washington at Waynesboro Courthouse, May 10, 1801. In 1802 he made topographic, meteorologic and epidemiologic surveys of Waynesboro and vicinity. This paper, which was read before the newly-organized Georgia Medical Society of Savannah on Oct. 6, 1804, and published in the New York Medical Repository in 1806, appears to be the first systematic account of disease written in Georgia. This was followed by a paper on the Soil, Climate and Diseases of the State of Georgia, published in the February, March and April numbers of the Medical Repository for 1806.

On Feb. 1, 1803, Dr. White was proposed as a corresponding member of the South Carolina Medical Society and duly elected at the meeting of April 1, 1803.

About February, 1804, Dr. White removed from Waynesboro and began the practice of medicine in Savannah, where he continued to make and record observations on medical conditions.

In June, 1804, Dr. White and seventeen

other physicians of Savannah met and formed the Georgia Medical Society. At the meeting on May 3, 1806, Dr. White read a paper on "The Topography of Savannah and Vicinity," the paper being published in the Medical Repository, Vol. IV, 1807. This was followed by a paper on "The Weather and Diseases of the City in 1805," read before the Medical Society on June 7, 1806, and also published in the Medical Repository.

These papers constitute the earliest systematic records of disease in the Savannah area, and enable us to know something definite of the trend of local medical opinion in early days. The presentation of these carefully prepared essays, based largely on personal observations, contributed largely to the success of the new organization. The Society was chartered by the State of Georgia in December, 1804.

As was the custom of the time, Dr. White practiced in partnership with another physician, at first with Dr. John Irvine, a physician of Scotch extraction who had remained loyal to the King of England during Revolutionary times. Dr. Irvine was made vice-president of the new Society and became its chief officer on the death of its beloved president, Dr. Noble Wymberley Jones, in January, 1805. Dr. Irvine was well connected and was a successful physician. His election as an officer of the Society was only one of many indications that he held the confidence of the community, despite his failure to espouse the cause of the American patriots. For reasons not now known, the partnership did not long continue and later we find a notice in the local papers that Dr. White had entered partnership with Dr. John W. Mendenhall, who had been a student and roommate of Dr. Edwin LeRoy McCall at the University of Pennsylvania in 1804-06. Dr. Mendenhall, though well prepared, was more of a pharmacist than a physician, and the new partnership was also of short duration, probably not proving profitable to either partner.

In 1807 or 1808, Dr. White withdrew from the practice of medicine, and entered mercantile life in a partnership under the name J. E. White and Company. His younger brother, Steele White (1784-1823),

was the other active partner. Dr. White continued to take an interest in the Medical Society and retained the full respect and confidence of members of the medical profession. The reasons for his withdrawal from practice are not certainly known. It is probable that, notwithstanding his excellent training and undoubted great interest in medical problems, White was not successful in dealing with patients. The only records available indicate that he had comparatively few patients. Dr. White was a man of amiable temperament and no violent disagreements either with his partners or other members of the profession, or with his patients interfered with his success. His family was growing and the income from his practice probably insufficient and he took a favorable opportunity to enter business, as did many members of the profession of the day. Dr. White also took a wide interest in all the activities of the community. For a time he was Secretary of the Georgia Agricultural Society. He joined military and civic societies, and took an interest in church, in business; and mildly, in politics.

In 1810, Dr. White made a business trip to England and wrote a two-volume work on his travels entitled "Letters on England," comprising Descriptive Scenes, with remarks on the State of Society, Domestic Economy, Habits of the People, Condition of the Manufacturing Classes. The volumes were published in Philadelphia in 1816. The book is well written and interesting, still being readable after nearly a century and a quarter. Dr. White, while on this trip, was engaged in purchasing supplies, mainly woolen and cotton goods and pottery, for his business firm, and his observations on the condition of the manufacturing trades and the lives of the working classes are original and excellent. His visits to places of historic and scenic interest are also well described, though the book is filled with rather long quotations, literary and otherwise, from other sources.

While in England, Dr. White made a visit to the celebrated Ann Moor, or starving woman, at Tutbury, England. This woman, an ignorant agricultural laborer, attracted attention to herself and made substantial

financial collections by pretending to be able to live without nourishment. A local committee of investigation had examined her and reached the conclusion that she really was able to live for long periods without food and with very small amounts of water. Dr. White saw her and accepted her claim as truthful. After his return to America, he collected information and published in Savannah, in 1812, a fifty-six page pamphlet entitled, "The History of Ann Moor with a Statement of the Evidence Substantiating the Fact of Her Long Abstinence." by J. E. White, physician, of Savannah, Georgia. Fifty-six pages, Scymour and Williams, 1872.

The pamphlet is a rare and curious publication, typical of many others of its type on similar subjects. Though Dr. White records the fact of Ann Moor's death, he apparently did not know at the time of printing his pamphlet that her claims to abstinence had been found to be false by a second investigating committee composed of persons of superior education and experience, who soon proved by a rigid control that the claim of Ann Moor that she was able to subsist for long periods without food was false. Her daughter, who had cleverly and secretly fed her, confessed the fraud when it was apparent that the strict control maintained was causing the decline of the claimant and eventually endangering her life.

Dr. White's life, until 1820, was uneventful. He continued to take an interest in the work of the Medical Society.

In the year 1820, Savannah was visited by a great storm, a great fire and a great epidemic. The firm of J. E. White and Company was burned out with a loss of twenty thousand dollars. Neither of the partners was able to recover from the loss and both met tragic deaths. Dr. White, after the fire, one of the greatest which had occurred in America at that time, was selected to visit other communities and solicit aid for the inhabitants of the city, very many of whom had lost homes and all their possessions. Prompt organization and local aid and prompt offers of help from nearby cities and states, and from a distance, too, made unnecessary the long trip planned by White

to solicit contributions. Better counsel decided also that the method planned of solicitation was not appropriate.

In August, the city was visited by a great epidemic of yellow fever. Dr. White, unable to repair his mercantile business, had returned to practice and became one of the first victims of the epidemic, dying after a short illness on Aug. 25, 1820, at the age of forty-five years. His ill luck held beyond the grave. A short time after his death a land lottery allotted him a large prize—too late to be of any value to him. His younger brother, Steele White, was thrown from a horse in 1823 and died from the injuries.

Dr. White deserves to be remembered for his medical writings, the first available for Georgia, and for his work in organizing the Georgia Medical Society. Before the organization of the Society, the medical profession in Georgia was unorganized and without legal protection. Few of its members or of the other practitioners had the advantage of university training, either general or professional. There was no provision for the legal licensing of physicians, and qualified members of the profession practiced in competition with pharmacists and with various types of quacks. Dr. White's aid in organizing the profession and developing protection for its members was undoubtedly a large factor in the success gained. In addition to making topographic, meteorologic and epidemiologic surveys (1803-1806), the Society adopted a code of medical ethics; began systematic vaccination of the population against smallpox (1805); began efforts to secure a medical license law (1805, but was not successful until many years later); established a hospital (1808-1810); established a medical library (1809); and most important and original of all, began systematic malaria control work (1809). In 1817, the Society induced City Council to undertake the permanent draining of the rice fields adjacent to the city. The original cost of the work was seventy thousand dollars at the value of forty dollars per capita. The final cost was over two hundred thousand dollars and the procedure had a marked effect on the health of the city but did not prevent the dreaded yellow fever, for reasons we now more fully

understand. In all this work, Dr. White had a hand and he finally laid down his life as a sacrifice to his professional duty.

Dr. White's essays on the diseases of Waynesboro, of Savannah and of the State of Georgia enable us to know something of the methods of medical thought in his day. While in most ways the medical methods of that day are either identical or similar to those of the present time, in some particulars the differences are so marked that the medical man of today has some difficulty in following the reasoning of his predecessors of the early part of the Nineteenth Century. In general, the medical theories and medical practice of that day followed the teachings of Dr. Cullen. The teachings of a great American physician, Dr. Rush, were beginning to be known and followed. The following item seems to require comment:

1. It was a common experience in the tropics and in the warmer parts of America to note that newcomers or strangers were more often affected by the endemic fevers, and more frequently with fatal results, than residents. This subject has been discussed in an effective way by Dr. David Ramsay of South Carolina, and at a much later date by Dr. Jacob DeLaMotta of our Society, who was also a member of the Medical Society of South Carolina. It is probable, therefore, that the information in White's essays on this subject was a part of the common medical knowledge of the day.

It is a question whether the protection against disease given by residence was due merely to residence in a hot miasmatic climate, or due to patients having the prevailing epidemic diseases in mild form. Since the theory of the day attributed disease to chemic atmospheric poisons, or septons, it is conceivable that residence alone might give protection just as continued exposure to heat and sun develop protection against those agencies. From our present-day point of view, it is more probable that the immunity secured by residence was due to disease itself in mild form. In early times, fevers of different types were recognized and each type might have had various grades of severity. In other words, mild forms of fever were recognized, but since

diagnosis was dependent almost entirely on symptoms, the mildest fevers, in which symptoms were atypical, were not always recognizable. This difficulty was solved by some observers by the adoption of the conclusion that the grades and even the forms of fevers sometimes changed, influenced largely by meteorologic conditions. Thus some observers believed that the more benign malarial fevers could be at times transformed into the more severe malignant fever, or yellow fever. At times statements were made which indicate that the agency giving protection on protracted residence was the disease itself in mild form. Thus White writes, "Almost all immigrants are liable to what is commonly called a seasoning, which is a fever more or less of an inflammatory nature."

2. White advised temperance and avoidance of night air, also the air of morning before sunrise. Dr. DeLaMotta banned the mint julep; "the practice of slinging down, as it is termed, the anti-fogmatics and mint juleps from the dawn to midnight, has been pursued to too great an excess, under a false idea of cooling the system and counteracting the effects consequent to a change of climate."

In the treatment of disease, the process of blood letting, as a curative and diagnostic measure seems most strange to the student of today, when in a large percentage of the cases formerly bled, the proper treatment is now often quite the opposite, the infusion of blood or nutrition fluids, instead of removing the same. The process, which has at times and under certain conditions real value, was abused and overused. Even nurses, barbers and ignorant lay-bleeders practiced the art, which was at times used for the simple purpose of recovery from a period of drunkenness. In Georgia many of the plantation owners found it necessary to insist that overseers should not bleed slave patients without first having secured an order from the plantation physician. Yet bleeding in proper amount has had at times value as a means of treatment and probably was useful in combating some of the less severe attacks in full-blooded patients. Dr. White bled one patient over

120 ounces, that however over a period of several days—blood volume being quickly recovered in case of bleeding at intervals if not too often practiced. The process also had at times a diagnostic value—arising from observation of the clinical reaction observed after the treatment. The diagnostic values of the appearance of the blood and its clot were largely fanciful.

Much greater use of purges was the common practice of early times, and usually the more severe purgations were used. Calomel in doses of twenty to one hundred grains was a common remedy. During the epidemic of cholera, calomel was given in tablespoonful doses, frequently repeated until over a pound had been given. Salivation was a common means of treatment, and at times unquestionably effective.

In days when the hypodermic syringe was unknown, easily absorbable medicines were sometimes applied on blistered surfaces. Blisters were also used as counter-irritants. Now these agencies are uncommonly used.

In the treatment of malarial fever, quinine was not available prior to 1820 and infusions of cinchona bark were used, sometimes the bark of the white-oak, red-oak and dogwood being used as substitutes. The use of Peruvian bark was much restricted by various objections to its use, which now seem difficult to understand. The failure of the drug to produce results resulted partly from its commonly causing digestive disturbance; partly from a great variation in its drug value, some shipments being worthless.

The student of today has some difficulty in reading the medical records of over one hundred years ago on account of the changes in the nomenclature of disease. Many old terms have been discarded, such as *cynanche*, and others are indefinite and change, such as *worm fever*. Medicine has never had a scientific nomenclature. Names of diseases need not be descriptive, though such names are more easily remembered. All that is essential is that the name be generally recognized and represent a clinical entity, so far as the state of knowledge will provide for such names.

As regards yellow fever, the term, yellow, depends upon a single symptom, and one which does not always occur and usually occurs late in the course of the disease when present, is clearly not a very satisfactory title. This is demonstrated by the multiplication of names for this disease. While objection was made to the name, yellow fever, in many localities, it was commonly used in others. In Savannah, the objection to the use of the name was so marked that our records rarely contain this title. The term, malignant fever, or fever with black vomit, was most commonly used; but hundreds of deaths during epidemics were given the simple title, fever, with no qualifying word. Occasionally other synonyms were used, such as *Maladie de Siam*. The objection to the use of the term, yellow fever, did not arise from a reluctance to admit the presence of the fever in the city, though at times, as elsewhere, such reluctance did exist.

Similarly, the term, malaria, as a synonym for the simple term, bilious fever of paludal origin, was not used but was considered in bad form. Many years later an eccentric genius, Dr. Alexander Jones, denied the existence of malaria on the ground of false nomenclature, though freely admitted the presence of tertian and quartan fever, remittent and intermittent.

Dr. Alexander Jones (1803-1863)

I select as a representative of the medical history of the third and fourth decades of the Nineteenth Century (1820-1840), the life of Dr. Alexander Jones of Upper Georgia. Until recently little was known of Dr. Jones' work in Georgia. It was known that Dr. Alexander Jones of New York City had made an original and striking contribution to business methods, originating and developing the use of the electric telegraph in collecting and distributing news, but only recently has it been possible to demonstrate that the Dr. Alexander Jones of New York City was identical with the Dr. Alexander Jones who was active in Georgia from 1823 to 1837. In Georgia, Dr. Jones' name is closely connected with the organization and conduct of the Central Medical Society, but little information was available concerning that organization. Dr.

Richard Shryock, in his edition of the Arnold letters, found a reference to the Central Medical Society, but stated that little information was available concerning that society.

Dr. Alexander Jones (1803-1863) was probably a native of North Carolina. Exact information concerning the date and place of his birth, his family and his early education is still lacking. In 1822, Dr. Jones completed the medical course at the University of Pennsylvania and received the degree of Doctor of Medicine.

In 1823, Dr. Jones was made an honorary member of the Georgia Medical Society. Within two years the progressive young Dr. Jones was made Dean of the newly-formed Board of Medical Examiners of Georgia and soon after became the Secretary of the newly-formed Central Medical Society of Georgia (1826-1827).

In 1821 the efforts of the medical men of Georgia to secure a medical license law began to bear fruit. In that year a local license law was passed giving authority, under certain conditions, to the Georgia Medical Society of Savannah to examine all candidates who desired to practice in that city. The law, which was to be in force for a period of five years only, was passed and put into effect. In 1826, a general license law for the State was passed, and a medical license board of twenty members appointed. This board met at Milledgeville in December, 1826, and Dr. Alexander Jones was made Dean of the Board. At the end of the first formal meeting, the members of the board organized a society for the "promotion of medical science and its collateral branches." In this manner arose the Central Medical Society, with headquarters at Milledgeville. The society was to meet annually at the seat of Government, immediately after the close of the annual meeting of the Board of Examiners. Provision was made to enlarge the membership not to exceed forty members. Two significant facts should be noted:

1. The plan did not provide for a state society, open to all qualified physicians in the State;

2. The name, Central Society, was selected since the organization met in the central part of the State, two other societies, the Georgia Medical Society (Savannah),

organized in 1804, and the Augusta Medical Society (Augusta), organized in 1823, occupying the outlying and more early settled territory.

Dr. Alexander Jones became the most active exponent of the organization. He was an excellent orator and a prolific writer and continued to act as the secretary of the Society. Such success as was secured by the new medical license law (it must be confessed a limited success), and the progress made in advancing medical organizations was due largely to Dr. Jones' efforts. The three societies exchanged courtesies and worked together for their common ends.

On December 2, 1828, at the annual meeting in Milledgeville, Dr. Jones delivered an oration. This address, which was printed at Augusta in pamphlet form in 1829, contains the best account of medical practice and medical organization published in Georgia prior to the organization of the American Medical Association in 1847. This pamphlet bore the title, "The History of Medicine in the Southern States, with a notice of the causes which have restricted its progress, and the means calculated to promote it." Short accounts of medical organization in Virginia, South Carolina, Georgia, Alabama and Mississippi were given. The account of medicine in South Carolina was the most extensive and contained some appreciative sentences of the work of the illustrious members of the South Carolina Medical Society, and mentioned the success of the new Board of Examiners, not available elsewhere. The discussion of the causes which have retarded progress and suggestions for improvement were well stated and full of wisdom. The historic value of this essay is considerable. Its presentation and the organization of the Central Medical Society constitute the contributions of Dr. Jones to the medical history of Georgia.

In 1828, Dr. Jones presented to the Central Medical Society an essay on the non-existence of malaria. This was an extraordinary piece of medical philosophizing directed against the idea that malarial fevers were caused by miasmas or distinct chemical poisons in the air.

In 1831, Dr. Jones succeeded in inducing the General Assembly of Georgia to appro-

priate fifteen hundred dollars for the purpose of sending a representative to London to secure copies of the Colonial Records of Georgia. The appropriation was made and the offer made to name Dr. Jones to render the service. For some reason, not known, the matter fell through. In 1839, the project was again brought up and the matter consummated, copies of the records being secured. These records were unfortunately burned at a later date and not until recent years were the present excellent printed Candler copies of the Colonial Records of Georgia available. The indexes of these volumes were poor, but recently with a Works Progress Administration grant and under the supervision of the Savannah Historical Research Association, of which I have the honor to be the President, a new and complete index to the Colonial Records has been made. Thus the project originated by Dr. Jones has been finally completed. Always in Georgia, as in South Carolina, physicians have taken an active interest in the history of the states.

The work of the Board of Medical Examiners, established in 1826, was hampered by a failure to make adequate provision for paying the necessary expenses of members of the Board. There was a considerable amount of indifference to the law, which wrongfully made exceptions of those who had diplomas from institutions of learning. As medical schools multiplied, some of these diplomas were of little real value. There was a tendency to shorten the period of professional education, originally under the apprentice system, from three to seven years, to the two years of medical school attendance, with a bare four or five months' yearly session. In many parts of the State physicians did not take the trouble and expense to make the trip to Milledgeville and undergo examination. Few of the Savannah physicians were examined or even presented their diplomas to the Board if they had them. Quacks and irregular practitioners continued to compete with well-prepared physicians and in 1837, adherents of the so-called *Thomsonian School of Healing* secured an amendment to the State law, excluding members of that sect from the

process of the law. The blow was a hard one and practically killed the Medical Board. With it died the young and promising Central Medical Society which might, if properly nurtured, have developed into a state medical society. Not until 1849, two years after the formation of the American Medical Association, forty-five years after the formation of the Georgia Medical Society, and sixty years after the organization of the Medical Society of South Carolina was organized, did the State of Georgia secure a state medical society. This organization was compelled to take the name, The Medical Association of Georgia; the name, The Georgia Medical Society being already in use.

Dr. Alexander Jones quit his medical practice in Georgia in disgust after the failure of the medical license law. The usual account of his life states that soon after graduation in 1822, he repaired to Mississippi and Louisiana and interested himself in cotton culture and the statistics of the cotton business. These older accounts ignore his work in Georgia, which was formerly unknown. They also ignore the fact that his knowledge of and interest in cotton was secured during his residence in Georgia. After 1837, Dr. Jones did repair to the Mississippi Valley, and that year we find him applying for letters patent for improvements on the cotton gin and cotton compresses. He had begun the collection of statistics on cotton, a work not then organized, and became an expert on that subject, continuing to collect and make commercial reports on cotton and other commodities, while at the same time practicing medicine until his death in 1863. The British East Indies Company, searching for an expert to start the culture of cotton in India, called Dr. Jones to London in 1840 for a conference and offered to send him to India at a large salary, with a contract for a term of years to start cotton culture in that country. Dr. Jones refused the offer, since it meant the setting up of competition to one of the most important agricultural businesses of his own country.

Dr. Jones returned to New York and began writing regularly for the Journal of

Commerce and later for the New York Journal and other newspapers. While continuing to practice medicine, he systematized the collection of commercial news and made that work a new profession. In this work he began to use the newly-discovered electric magnetic telegraph, both for the collection and distribution of commercial news, and invented a cipher for that purpose. The method was also occasionally used for general news and this method was systematized by Jones, who became the first general agent of the New York Associated Press. As the business developed, the United States Associated Press was formed and it became impossible for Jones to carry all the work, so he resigned the general agency and devoted himself, after 1852, to reporting commercial news, continuing also his practice of medicine.

He continued occasionally to write articles of historic interest. Being himself a Welshman, he joined the St. David's Benevolent Society of New York, and in 1855 addressed the Society on the topic, "Cymry of '76"—an account of the patriotic service of citizens of Welsh descent in the American Revolution.

The Cuban Revolution of 1851 aroused the interest of Jones and the result was a small book entitled "Cuba in 1851."

Dr. Jones' most important non-medical work was an account of the telegraph and its use in news gathering and news reporting. This book, entitled, "Historical Sketch of the Electric Telegraph—Including Its Rise and Progress in the United States," was published in 1852, when Jones retired from his position as superintendent of the New York Associated Press. An account of Dr. Jones' work is also contained in Victor Rosewater's book, "History of Cooperative News Gathering in the United States," D. Appleton, 1930.

Dr. Jones' most important work was non-medical and performed after he left Georgia. His medical work was important to medical progress in the State, but he will not be remembered chiefly by it. It is extraordinary that a man could do so much other work and still have success in the

practice of medicine. His capacity for work was great and his mentality of high order.

In the history of the Central Medical Society we have seen something of the progress in medical organization in Georgia in the third and fourth decades of the Nineteenth Century.

During this period much advance was made in medical education. An increasing number of students were securing degrees in medicine after periods of study in institutions of learning. Still a majority, a large majority of Georgia students were trained under the apprentice system. Though the university courses were unorganized and of short duration, barely two yearly periods of from three to five months each, most of the students still studied under preceptors for a period before taking university courses and also for the period between the two yearly courses. We have seen that in Savannah at the beginning of the century few of the physicians had the advantage of collegiate or university education, either general or professional, and only two doctors had professional degrees. Soon after 1840, it is estimated that there were about forty-two practitioners of medicine in Savannah, about three-fourths of them members of the Georgia Medical Society. Only about one-fourth of the number had medical degrees and only one-tenth had the advantage of university training in both general and professional courses. Only three members had received the advantage of medical training in Europe. The great majority of the members of the profession had been trained under preceptors, but had received good training for periods of from three to five years.

In medical education in the State there had been great progress. At the beginning of the century there were only four medical schools in the United States, the nearest being at Philadelphia. An expensive journey, requiring from six to twelve days by sailing vessel, or seventeen days by stage, was necessary before a Georgia student could begin to study medicine under university conditions. By the end of the first two decades there were eleven medical schools in the country, the nearest at Baltimore. By the end of the fourth decade,

there were forty schools available, including one in Georgia and one in South Carolina. It is estimated that by 1845 there were in Georgia 280 graduates of the University of Pennsylvania, the largest number from any southern state except perhaps Virginia. It is estimated that 6,849 graduates had been given diplomas and thousands had attended the various medical schools for one session as an addition to their regular apprenticeship, but had not received degrees.

Soon after 1840, and especially after 1865, came the deluge. Large numbers of medical colleges were founded, some of them ill prepared for giving adequate training, some fraudulent. The medical courses, though lengthened somewhat, were still short, and gradually the period of study under apprenticeship was discarded.

The history of medical licensing in Georgia prior to 1840 has been outlined. The first license act in North America was passed by the province of New York in 1760. In New Jersey in 1772 licenses were issued by the judges of the Supreme Court, who were empowered to select appropriate examiners. The first Georgia doctor licensed by an American licensing board was in all probability Dr. John Maxwell of Bryan County, who secured a license from the New Jersey Board. After 1800, medical societies in New York and Massachusetts were empowered to establish boards of censors or licensing boards to examine candidates. We have seen that a similar system of license by a medical society was established in 1821 in Georgia under the direction of the Georgia Medical Society. While the Central Medical Society did not have direct control of licenses, this organization was practically identical, as regards membership, with the State Board of Examiners.

There had been much improvement in the practice of medicine since 1820. Bleeding was still used freely, but with caution and moderation. Purgatives were still used in large doses as a regular method of treatment. Calomel was given in large doses, but salivation was not used so freely. Better medicines were used for treatment of malaria. Fevers were beginning to be differentiated. The community had had the

experience of epidemics of cholera and yellow fever, the latter still regarded as of domestic origin and strictly non-contagious. Quarantine, which was always neglected in Savannah, was still held in little repute by members of the profession. However, individuals had appeared who approved of quarantine. More attention was paid to a study of remedies. Broussaisism had succeeded Brunonianism. Perhaps the best estimate of the situation as regards medical treatment during the decade 1830-1840 has been given by Dr. James S. Morel, a graduate of the University of Pennsylvania and a studious person who translated Claud Bernard's essays on the heart soon after they were issued. The following quotation is from Dr. Morel's pen:

"In the year 1832 I returned with my small gleanings from the then grand fields of knowledge, the University of Pennsylvania, to the City of Savannah, built on a sand hill beside the river bearing that name. It was then the largest city in the State of Georgia. I found the medical profession represented by Drs. Daniell, Waring, Screven, Bartow and Habersham. These held the first rank; Drs. Wilkins, Richardson and Arnold the second. The first named gentlemen were men of wealth and their success in the practice of their profession gave them a kind of authority upon all medical questions. The Autumnal Fevers of Savannah and their treatment engrossed their attention, but their views were somewhat antagonistic. These views were set forth in publications to which I refer you for further information—Daniell on Fever; Dr. Waring's work on the same subject. The treatment of these fevers was in accordance with their theory—the one, tonic, stimulant and restorative (Brunonianism); the other, antiphlogistic (Broussaisism), if I may use that term which has become almost obsolete. The difference in the treatment may be represented in the difference there is between beefsteak and brown stout—and gruel and barley water. Notwithstanding these differences in their theory and practice, both of these gentlemen were considered eminently successful as practitioners.

"Our Autumnal fevers were by one party supposed frequently to merge into yellow fever, and many entertained the same erroneous opinion even in our day. These fevers were regarded as the offspring of malaria, but what it was that made the air bad was not known at that time, and is not known even unto this hour."

RABIES CAN BE ELIMINATED

Rabies or hydrophobia can be eliminated from the United States as it has been from other countries if citizens will cooperate with the authorities in rigid control of dogs and in prompt attention to dog bites, which are usually responsible for this disease in human beings. W. E. Aughinbaugh, M.D., New York, declares in the March issue of *Hygeia, The Health Magazine*.

TWO PHYSICIANS AND TWO PERIODS IN THE MEDICAL HISTORY OF GEORGIA

Appendix to Dr. Victor H. Bassett's article on Dr. Alexander Jones

Shortly before Dr. Bassett's untimely passing he had started a line of investigation that he hoped would result in definite authentic information concerning the early life of Dr. Alexander Jones.

As a result of this investigation two letters came too late for him to use. One came to Hon. Gordon Saussy, Judge of the Ordinary Court of Chatham County, Savannah, Georgia, in answer to an inquiry he had made for Dr. Bassett, directed to Surrogate's Court of the County of New York, Hall of Records, New York City. This letter gave information concerning the last will of Dr. Alexander Jones and the terms of getting a photostatic copy of it.

The other letter came to Dr. Bassett from Frank E. Campbell, "The Funeral Church, Inc.," Broadway at 66th Street, New York City, in reply to a letter sent for Dr. Bassett by Mr. Harry L. Williams of Sipple Brothers, Bull at Jones Street, Savannah. These letters suggested lines of investigation. In his letter of Aug. 29, 1938, Mr. Campbell mentioned the names of Dr. Alexander Jones' children, and stated that one son, Mr. John E. Jones, was in all probability still living, giving his last known address.

In reply to a letter written to John E. Jones, I received a letter from his son, Alexander Jones, stating that his father, John E. Jones, died three years ago. He sent a most excellent account of the early life of his grandfather, Dr. Alexander Jones, which is transcribed in full:

DR. ALEXANDER JONES

"Dr. Jones was born October 14, 1800 or 1801, on a farm near the forks of the Yadkin River in Rowan County, North Carolina, twenty-five miles north of Salisbury. His father, Samuel Jones, had gone there with his father from Virginia some time before the Revolutionary War. His mother's name was Sarah, but I have no knowledge of the family from which she came. Dr. Jones was the youngest of eight children, five sons and three daughters.

"His early education was obtained at a school started by his father which was attended by boys from that part of North Carolina.

"In 1813, because of difficulties with a stepmother, he left home to live with a sister who had married a Mr. Parks. He lived with Mrs. Parks and other sisters and brothers until 1818, when he went to his brother, Dabney P. Jones, in Georgia. He obtained employment as a clerk in a store in Washington, Georgia, owned by a Mr. Coxe, and in the fall of that year accompanied Mr. Coxe to live in Lexington, Georgia. At that time he determined to study for the practice of medicine and was introduced to Dr. Dunn in Lexington who agreed to take him as a student, but advised a more thorough knowledge of Latin first. Accordingly he boarded with Dr. Dunn and attended Mesons Academy (this may not be the correct name for it is quite illegible) for some months. Thereafter he studied under Dr. Dunn for a year, and in the fall of 1820 he went to Philadelphia to enter the University of Pennsylvania. He obtained the degree of Doctor of Medicine in April, 1822. Accompanied by a fellow student, Dr. Swift of Georgia, he went to New York, and on April 6, 1822, they sailed for Savannah on the ship 'Garonne.'

"There is nothing to be found in his writings as to how long he remained in Georgia, but in 1837 he was in New Orleans engaged in selling an improved cotton gin which he had invented. He became recognized as an authority on the culture of cotton and was called to England by Parliament to give information regarding it. He was offered a commission to establish the growing of cotton in India but refused because he felt it would be detrimental to his own country.

"It is not known when he came to New York nor whether he practiced his profession there. However, he was greatly interested in the development of the telegraph and established the first daily newspaper to use the facilities afforded by the telegraph. In 1848 he helped to organize the Associated Press in New York and became its first manager. Later he was a financial writer for the New York Herald. He died in New York, Aug. 22, 1863."

Alexander Jones' will was "Signed, Sealed and Published before Witnesses on this, the 13th day of February, in the year of our Lord One thousand Eight hundred and Sixty three."

Appended to the will are three codicils, the first signed, sealed and witnessed the fourteenth of February, 1863; the second, the sixth of July, 1863; the third in August, 1863. The original will and first codicil are in his own hand and show some degree of infirmity. The last two codicils are written by others and signed by him.

The executors appointed were John I. Byrd, James R. Richards and Bartholomew Blanco of New York City.

His effects were described as consisting of personal property comprised of stocks and bonds, "in which my money has been invested, leaving a small cash balance in the Chemical Bank."

The third paragraph of his will states, "I will and bequeath to my wife Sarah Jones all my claims paid by me on account of the house and lot No. 171 East 50th Street, described in a deed conveying it to her by George Whitfield, dated the 2nd April, 1860." This bequest was conditional. Sarah Jones was also bequeathed the household furniture, pictures, ornaments and statuary, and the sum of one thousand dollars.

Other beneficiaries were his daughter, Eliza Jones, a minor; and his sons, Benjamin Franklin Jones and John Erasmus Jones, a minor. Each son was left four thousand dollars. Benjamin Franklin Jones was to receive his principal when he reached the age of twenty-five years, in September, 1866; John Erasmus to receive his on his arriving of age. To John Erasmus was also bequeathed "my library of miscellaneous books, manuscripts and published materials, to be kept and secured in the family, or otherwise, as may be deemed best by my executors until he is of age, allowing their use of books, however, to the family, while living together."

Under paragraph 12 of the will is the following:

"It is my anxious wish and desire; that the persons named above in this, my last will and testament, shall continue to live together, as one family under the same roof, as at present, and, to render their peace and happiness more secure, it is my desire that Mrs. Sarah Jones aforesaid, the mother, should not marry again, and that she will give advice, aid and comfort to the children and especially those of minor age."

Other beneficiaries were Daniel L. Jones, "fifty dollars, as an acknowledgment for his kindness to us while ill at different times"; Catherine McLean, the bound Irish girl, "forty dollars on becoming of age, in addition to her clothing," and "as a remembrance to my Brother, Rev. Dabney P. Jones, of Palmetto, Georgia, seventy-five dollars to be paid after the war—and if he should be deceased, to his widow, and if she is not alive to his three oldest children."

John Erasmus Jones received his father's silver £(?) watch and gold pencil and pen, case and breast pin; Benjamin Franklin Jones received his father's opal breast pin and one copy each of his father's original works with McCulloch's Commercial Dictionary and those works appertaining to Commercial Statistics."

The will and codicils cover sixteen pages of paper. Appended to the instrument is the certification of the correctness of the copy of it by George Loesch, Clerk of the Surrogate's Court, State and County of New York, and its admission to probate, Oct. 22, 1863.

Mr. Frank Campbell states "Dr. Jones was interred in Greenwood Cemetery. The plot was purchased in 1863 by his wife, Mrs. Sarah Jones. Sarah Jones died April 17, 1896, and left surviving her three children, as follows: A son, Benjamin F. Jones, who died on Dec. 30, 1917; a daughter, Elizabeth Jones Taylor, who died on July 11, 1933; a son, John E. Jones, who in all probability is still living." This letter also states that "There are two gravestones on the cemetery plot, but no stone or inscription whatever to the memory of Dr. Alexander Jones."

In the personal letter accompanying the facts of Dr. Alexander Jones quoted above, his grandson, Alexander Jones, of the Hackensack Trust Company, Hackensack, New Jersey, gives other information which is interesting. He said:

"I am sorry that it has taken so long before replying, but it was necessary to read through a considerable amount of writings of 'the Doctor' as he has always been referred to in the Jones family. He was a prolific writer and although I have his diary which covered the early days of the Civil War and some part of his 'recollections' I fear that much that he wrote has not been handed down to me and been lost.

"He had a very varied career—starting as he did a boy helping with the farm work, clerk in a store, becoming an M. D., an inventor and a newspaper man. He was interested in art, particularly sculpture, and assisted several young sculptors, one of whom he took into his home.

"He knew many of the prominent men of his day, including Daniel Webster, Calhoun and Buchanan, and his recollections contain much that is very interesting.

"Although he did not favor slavery, I believe his sympathies before and during the War were largely with the South, for he felt that the difficulties could have been

adjusted by an agreement that there should be no more born slaves."

From Dr. W. H. Astin, Palmetto, Georgia, and the oldest man living in the vicinity of Dr. Dabney Jones' former residence, I have this appreciative comment on him:

"Yours of 4/29 came today (May 1) and in reply I wish to state that I never knew 'Uncle Dabney,' as he was lovingly and familiarly known. I was born June 16/67 and was too young to remember him only by reputation. However, I will say this: he was a much-beloved resident of Palmetto and one of the first leaders in the age-long prohibition fight."

MRS. VICTOR H. BASSETT.

THE MEDICAL CAREER OF
JOHN LeCONTE
1818-1891

*Who was a Physician in Savannah from
1842-1846¹*

*With a Discussion of the Status of
Medical Practice at That Time*

VICTOR H. BASSETT, M.D.*
Savannah

Some years ago the writer prepared a paper on the life work of Dr. John LeConte, of Savannah, with special reference to his contributions to medicine and public health. This paper was read at a meeting of the Georgia Medical Society on Feb. 23, 1932.²

The present paper contains a brief summary of the facts included in the paper above noted and a discussion of the state of medical practice in the Savannah area during the period 1842-1846, with statements concerning the influence of LeConte on medicine in Savannah and in the State of Georgia, and a survey of the contributions to medical science made by him.

The writer has given, in a previous paper read before the organization,³ an account of the condition of medical education and medical practice in Savannah and Georgia at the beginning of the Nineteenth Century. In this paper some comparisons of the two periods showing the progress made in medical practice, medical education, medical licensing, and other allied features of medical progress will be attempted.

The LeContes were a family of scientists and doctors.⁴ Even those members of the family who did not have a medical education took a scientific interest in medical subjects and made contributions to medical literature.⁵

The LeConte family was of French Huguenot origin, originally settling in New York. At a later period, members of this family removed to Philadelphia; others to Georgia. Of the northern branch of the family, three members are known for their contributions to science; three other scientific members of the family were Georgians, either natives or settlers in Georgia.

John Eatton LeConte, Sr., (1739-1822), who wrote the first account of an epidemic in Savannah⁶; Major John Eatton LeConte, Jr., (1784-1860); Louis LeConte (1782-1838); Doctors Joseph (1825-1901) and John (1818-1891) LeConte, the sons of Louis LeConte; Dr. John Lawrence LeConte (1825-1883) the son of Major LeConte and the cousin of John LeConte, the subject of this sketch.

Major LeConte was an engineer and served in the Engineering Corps of the United States Army. His scientific studies were mainly of the animals of Georgia,⁷ and his specialty was insects. His son, Dr. John Lawrence LeConte,⁸ was a well-known entomologist, specializing, as did his father, in the study of beetles (Coleoptera).

Louis LeConte, the brother of Major LeConte, moved to Georgia about 1810, and took charge of the plantation of his father at Woodmanston, Liberty County, Georgia. Louis LeConte had received a good education at Columbia University, and had begun the study of medicine under Dr. Hosack, of New York City. He relinquished his plans to study abroad and receive a medical degree, and moved to Georgia, thereafter using his medical knowledge to take care of his large plantation and slaves, and to give aid to his poor white neighbors of the pine barrens. Louis LeConte was deeply interested in chemistry and in natural history, especially botany, and made studies of Georgia plants, and developed a fine garden which was one of the show places of Georgia in early times but now almost forgotten.⁹ Louis LeConte made few sci-

*Deceased.

entific contributions in the form of written communications. His great contribution was the education and training of his two sons, John and Joseph, who became the most celebrated scientists produced by the State of Georgia. These two sons of Louis LeConte and their cousin, Dr. John Lawrence LeConte, achieved national and international recognition for their scientific work. All three of these younger and most distinguished members of the LeConte family were greatly indebted to their respective fathers for both scientific and cultural training. John Lawrence LeConte specialized in the study of insects, especially the Coleoptera, and was considered, by competent authorities, to be the most accomplished entomologist whom America had produced.¹⁰ He made large collections of insects. Based on their study, he made important contributions to the classification of insects and to the geographic distribution of animals, especially in the West. Dr. John Lawrence LeConte made little use of his medical knowledge in practice, in this way resembling other members of the family. He did, however, enlist as a surgeon in a northern regiment early in the Civil War, and was promoted to a medical director in the Army of the Potomac, where he served faithfully during the war.¹¹ His cousins, whom he had frequently visited in the South, and with whom, in both educational and social relations, he had been closely connected, served the South with equal loyalty; John LeConte as chemist in the Niter Laboratory where gun-powder was manufactured for the Confederacy, Joseph LeConte in a medical laboratory where medicines were prepared for Confederate hospitals.¹²

Dr. Joseph LeConte was the greatest scientist of the LeConte group, but he would have been, with his characteristic modesty, the first to give the greater honor and credit to his distinguished elder brother whom he greatly admired and loved. There is a certain parallelism in the careers of these two men which it is interesting to consider. They were greatly favored by their ancestry, which contained all the virtues of their combined Huguenot and Puritan descent; by

their home surroundings, which were of the best. The family was sufficiently wealthy to give them the advantages of the best educational facilities and of travel. Their elementary education was secured in a local school supported by the planters for their children. In addition to the elementary branches, some instruction was given in mathematics, in English, and in Latin and Greek. At one time young Alexander H. Stephens,¹³ afterwards one of the greatest of Georgia statesmen, was their tutor. Natural science and chemistry were the subjects of daily study under their accomplished father, who maintained a chemical laboratory, and an excellent library of scientific books, and who was himself proficient in botany and horticulture, and interested in chemistry and natural history. The study of animals and plants was a daily exercise,¹⁴ the woods and waters of the coastal plain of Georgia and of the swamps of the Ogeechee and Altamaha rivers furnishing excellent hunting grounds.

Both brothers graduated from Franklin College with degrees of A.B.,¹⁵ and from the College of Physicians and Surgeons in New York City with degrees of M.D.¹⁶ In addition, Dr. Joseph LeConte, who was interested in biologic science and evolution, had a period of study under Prof. Louis Agassiz at Harvard University.

Both brothers were successively professors in the University of Georgia, in the University of South Carolina, and in the University of California; John LeConte specializing in physics, Joseph LeConte in geology and paleontology. In addition and prior to these appointments Joseph LeConte served in Oglethorpe University, and John LeConte as professor in chemistry in his alma mater, the College of Physicians and Surgeons in New York City. Before beginning their major life work in research and teaching scientific subjects, both brothers for a short time entered the practice of medicine; Dr. Joseph LeConte in Macon¹⁷ and Dr. John LeConte in Savannah¹⁸. Both became members of the local medical society, and later, when the Medical Association of Georgia was founded, of the state medical society, and took a generous part in the work of these organizations.¹⁹

Joseph LeConte's work is well-known. He became an authority on the geologic history of the western mountains, and as exponent and defender of the doctrine of evolution, taking the ground that scientific progress and true religion were in substantial agreement.²⁰ His attitude at the time was progressive and regarded by many as somewhat extreme. To present-day scientists Dr. LeConte's philosophy seems quite consecutive and it is difficult to understand why there should have been so much opposition to his attitude which was helpful to many confused young thinkers.²¹

It is the intent of the writer, in this paper, to give an account of the early medical career of Dr. John LeConte, and to indicate his influence on medical progress in Savannah and in Georgia.

The LeConte family has from early times had a close relationship to the history of Georgia and of Savannah. Though the family originally settled in the North, they early acquired interests in Georgia, and William LeConte, an attorney,²² settled in Savannah and was prominent in Revolutionary history. John Eatton LeConte, Sr., his brother, acquired land in Georgia and divided his time between his northern and his southern residences, the latter at Woodmanston, in Liberty County.²³ Savannah was the nearest large city to the plantations of the Georgia coast.

After his graduation in medicine, Dr. John LeConte had made plans to go abroad and continue his studies in Europe.^{23a} possibly to make a career in medical practice. The death of an older brother in Georgia made it seem necessary for him to alter his plans, and he decided to begin the practice of medicine in Savannah. During his four years' service in Savannah, LeConte laid the foundation of his scientific career,^{23b} making certain studies and beginning others of great interest and value to science. Dr. LeConte's practice was probably not large,^{23c} but his work was sufficient to indicate that he would have made a great success in the practice of medicine had he decided to continue. It is probable that his Savannah experience brought him to the conclusion that his real work in life

was to be scientific, both experimentally and educationally, and he thereupon took advantage of the first good opportunity to enter academic life where he attained such unusual success.

Dr. LeConte received his medical degree in 1841 and soon thereafter settled in Savannah in the latter part of 1842, and remained until December, 1846. His application for membership in the Georgia Medical Society was read at the meeting of Jan. 26, 1843,²⁴ and Drs. John F. Posey and William Gaston Bulloch appointed a committee to examine him as to his qualifications. The committee reported that no examination was necessary since Dr. LeConte had presented his diploma as a doctor of medicine, and LeConte was duly elected at the meeting of Feb. 9, 1843.²⁵

LeConte was unusually well prepared for medicine, having not only a good general education but also a scientific education, both theoretical and practical. Much progress had been made in medical education and medical organization since the foundation of the Georgia Medical Society in 1804.²⁶ At that time only two of the seventeen members of the Society had medical degrees from American medical schools and not one had the advantage of foreign study, either general or medical. Among the dozen or so practitioners of medicine in Savannah who were not invited to become members of the medical society were some irregular practitioners,²⁷ some pharmacists who practiced medicine in a small way, selling proprietary medicine,²⁸ and some outright quacks. There was no provision for determining medical qualifications in Savannah or elsewhere in Georgia, and no requirement for the legal licensing of doctors. During the years 1842-1846 when LeConte was practicing medicine, the membership of the medical society had increased to about thirty members.²⁹ Not all the practitioners were members of the medical society. From the death records have been secured the names of about twelve other practitioners in the city.³⁰ Some who had been members of the society had withdrawn, either to enter business or for other reasons.³¹ There were some irregular prac-

titioners and quacks still to be found. The educational qualifications of physicians had much improved. Still the majority of practitioners were prepared under the apprentice system, studying from three to five years under a preceptor. If the preliminary education of the young medical student was sufficient and his teacher had energy and ability and a knack for teaching, this method was satisfactory and had some decided advantages. A few of the practitioners in 1840, but still a minority, had medical degrees from good medical schools. A still smaller number³² had the advantage of preliminary collegiate education, followed by academic training in medicine. A still smaller number had received their training in medicine abroad.³³

There had been much increase in the facilities for medical education. In 1800 there were no medical schools in Georgia, and none in the South except the newly-established school of Transylvania University at Lexington, Kentucky.³⁴ There were only about six schools in the United States, the leading institution and the first to be established being the medical school of the University of Pennsylvania.³⁵ In 1804 only two graduates of that school were practicing in Savannah;³⁶ by 1845 the number of Georgia graduates of the University of Pennsylvania Medical School had increased to 280.³⁷ In addition local schools were available, the Medical School of South Carolina being established at Charleston in 1825 and the school at Augusta in 1828. Increasing numbers of students from these schools were beginning to practice medicine in Georgia and neighboring states. In another ten years medical schools were to be founded in Savannah.³⁸ So long as the two-year medical course operated to supplement the instructions received under the apprentice system, it was a great improvement in medical education. When the two-year medical course began to be used as a substitute for a longer period of education under preceptors, the progress in medical education was retrograde, scientifically. The system worked well with students who had some preliminary education, especially if the preliminary education was scientific,

but was deficient for those who lacked such basal knowledge. Two years was much too short a time for education in medical subjects alone, not including chemistry and physics and some training in natural sciences or biology. LeConté's training was unusual in that he had such a thorough training in what we now call the basic sciences, in addition to his literary training in Franklin College and his excellent courses in medicine in King's College, now Columbia University.

There had been some progress also in regard to legal requirements for practice. In 1804 no medical license was required in Georgia or in neighboring states. Since legal requirements for medical license set up a standard which differentiated the quacks and the uneducated doctor from the qualified doctor earnestly trying to practice medicine in an honest way, the enacting of a license law for physicians was one of the first objectives of the Georgia Medical Society and other local medical organizations.³⁹ Although such laws usually and with much justice, make exceptions of those who are actually practicing medicine at the time of passage of the law (that is, the law is not retroactive), the medical laws were usually actively opposed by all the incompetent persons attempting to practice, who were at times unfortunately numerous. Not until 1821 was a medical practice law secured in Georgia and that was a local law,⁴⁰ for Savannah only, and authorized the Georgia Medical Society, with the approval of the City Council of Savannah, to examine and license physicians for practice in Savannah. The law was passed with a provision that it be in effect for five years and then be superseded by a general license law,⁴¹ applicable to all the doctors in the State. Under the law of 1821 the Georgia Medical Society examined and licensed physicians in Savannah, and continued to do so even after the end of the period for which the law was effective. Although there was local representation on the Board of Licenses established by the state law of 1825-1826, local practitioners paid little attention to the requirements.⁴² Those who possessed diplomas were not required to be

examined, and diplomas were, as time passed, not difficult to secure. Not many even observed the requirement that those possessing diplomas make application with the State Board of License to show their diplomas. About 1837 the State license law was modified and made non-applicable to doctors who claimed to be trained by the Botanic Method, or Thomsonian School.⁴³ The law became for a time a dead letter, and it is probable that few of the members of the Georgia Medical Society in 1843-1846 had licenses.⁴² Those who did not have diplomas depended on the certificates of their preceptors.

There had been little change also in regard to vital statistics. Soon after its formation the medical society appointed committees to secure information on births and deaths, in both the white and colored races.⁴⁴ Attempts were made to secure a vital statistics law in Georgia, but public opinion was not yet prepared and the effort failed and the subject even at times was severely ridiculed by the state legislators. In 1843-1846, as in 1804, there were no birth records, and the only death records were the cemetery records. Much improvement had been made in hospital service. In 1809 the Savannah Hospital had been founded,⁴⁵ and in 1832 the Georgia Infirmary was established,⁴⁶ the first hospital exclusively for negroes, conducted by white doctors and white trustees.

Progress had been made in public health. In 1800 the health officer was appointed by the Governor of the State, and was really only a quarantine officer for the port.⁴⁷ In 1845 the health officer was a city officer and had the support of the medical profession which was frequently called upon to pass on questions of public health.⁴⁸ Health officers were practitioners of medicine and part-time health officials. Backed by the medical society, the problems of yellow fever and of malarial fever had been made the subject of investigation and advice. In 1818 the rice fields near the city had been drained and removed from wet culture, with decided improvement to the health of the community.⁴⁹ This was the first organized effort to control malaria in the United

States. There had also been improvement in plantation medicine,⁵⁰ especially in securing protection against smallpox and cholera, which were destructive to both races, but especially to the slaves.

There had been much general improvement in medical practice, which gradually was being placed on better theoretical and practical bases. Typhoid fever was beginning to be differentiated from other fevers. The treatment of malarial fever was much improved, quinine being available to replace the bark formerly used.⁵¹ Bleeding, though still much practiced, was used with more judgment as to the class of cases to which it was applied, and more conservatism as to the frequency of application and the amount of blood removed.⁵² Medical mixtures were becoming less complicated and the use of large doses of drastic purges less common. New ideas were being introduced from the medical schools of America and Europe, increasing numbers of students being sent to Europe for advanced education and training. Georgia, in 1840, lagged behind South Carolina in this respect, just as she had done in Colonial and Revolutionary times.⁵³

Our knowledge of LeConte's medical work in Savannah is derived from two sources, the scientific papers which he wrote, and from the minutes of the Medical Society. A search of the death records for the period, 1842-1846, was made, but no record of the death of a patient attended by Dr. LeConte was found. We may infer either that he was unusually successful, curing all his patients, or that he had few patients. Probably both statements are correct.

Before briefly citing the information to be found in the medical papers written by LeConte while he was in Savannah, it will be interesting to consider the information concerning LeConte's activities to be found in the minutes of the Medical Society.

The Georgia Medical Society, founded in 1804,⁵⁴ was a chartered organization, the second oldest city medical organization which has remained active during practically all its forty years of existence. The society, prior to 1842, had passed through

periods of great activity under the leadership of Dr. James Bond Read, Sr.,⁵⁵ and of Dr. Wm. R. Waring. Dr. Waring⁵⁶ had just passed away and had been succeeded by his pupil and protege, Dr. Richard D. Arnold,⁵⁷ who was president of the society at the time of LeConte's becoming a member. Dr. Arnold was highly educated and cultured, being a graduate of Princeton⁵⁸ and of the Medical School of the University of Pennsylvania.⁵⁸ Under his leadership and that of his successor, Dr. Joseph Clay Habersham, Sr., also a doctor of great intelligence and influence, the society was active and very successful during the four years of LeConte's membership.

Meetings were commonly held in the library room of the Medical Society, located in the old Chatham Academy.⁵⁹ Two meetings a month were held, meetings being continued during the warm weather, a practice now discontinued. During the four years of LeConte's membership, sixty-five meetings were held, not including eight meetings when no quorum was present. The membership was about thirty, and changed little during the period, no deaths occurring, and the average attendance being about ten to twelve members. One member was retired as an honorary member,⁶⁰ and five or six new members added. In 1844 Dr. LeConte was elected treasurer and librarian.⁶¹ Dues were \$5.00 yearly and some additional money secured from fines, but the accounts showed large arrears unpaid. LeConte, in one of his library reports, attempted to induce members to be more prompt in paying dues, recommending that the money be used to buy books for the library. The income which, at \$5.00 per person, should have been about \$150.00 yearly, was only from \$60.00 to \$80.00 yearly, the expenses being somewhat less. Two or three medical periodicals were taken for the library.⁶²

LeConte was a good attendant, being present at over two-thirds of the meetings. It was customary to levy small fines, usually about 25 cents, if members were absent or did not present a satisfactory excuse. This was a common custom in societies, both medical and civic, of that and earlier periods. This

custom had been followed by the Union Society in the early days.⁶³ Fines were also, at times, assessed for failure to appear on programs, the fine usually being \$1.00, but great laxity was used in accepting excuses and fines usually not collected, even when not excused. Much time was spent in discussion of fines and evidently at times ill-feeling arose from that source.

The program, in addition to reports and disciplinary action for occasional violation of medical ethics, consisted of essays on medical subjects or the presentation of medical cases, with or without a formal written report. A number of very good essays were presented during LeConte's membership. Of these, his own essays on the subjects of the physiology of the nervous system of the alligator and on the "History of Syphilis" were perhaps the best. Usually at each meeting a medical debate was held on some vital question of medical practice or medical theory. This being conversational and usually not requiring a written preparation, was the more common item on the program and usually participated in by all the membership in addition to those appointed for the debate. After all discussion had finished, a vote was taken and the decision arrived at recorded.

The members being busy physicians, did not always prepare themselves for programs. In sixty-five regular and extra meetings, held in the four years' period, there were presented only twenty formal essays, some of those being rather brief case reports; thirty-seven debates were held and twelve reports on special subjects presented. Twenty-one were without program except perhaps an informal debate. In only fourteen meetings were papers and debates both presented on the program.

Much attention was given to the subject of fee bills, and each member was required to sign the constitution and by-laws and also comply with the fee bill. The writer has presented a discussion of the fee bill of the Georgia Medical Society for 1818 and 1845 in his essay on "Plantation Medicine."⁶⁴ The following brief extracts are given from the fee bill in effect during LeConte's period of practice:⁶⁵

Fees for slaves were in some instances only half those for white patients.

Fee for visit in town, \$1.50; after dark, \$2.00; after 10 p.m., \$4.00.

Mileage in country, \$1.00 per mile in day time; \$2.00 per mile at night.

Mileage of water travel, \$2.00 per mile.

Consultations, \$10.00.

Medical advice, \$1.00 to \$5.00.

Medical opinion on Negro offered for sale, \$5.00.

Obstetric cases, ordinary, \$30.00 for whites; \$20.00 for slaves; cases pretermatural, \$50.00; delivered cases instrumental, \$70.00 to \$100.00.

Amputations, \$20.00 to \$100.00.

Fractures, \$10.00 to \$100.00.

Vaccinations, \$3.00 to \$6.00; slaves, \$2.00 each; slaves, \$12.00 per dozen.

Postmortem examinations, \$15.00.

Attendance in court, with opinion, \$15.00.

Unquestionably differences concerning fees and discussions about fees were occasionally sources of discord. Especially difficult was the problem of contract practice on plantations, a system preferred by many plantation owners, but forbidden by the fee bill. During the period 1842-1846 this question was discussed several times in the Medical Society meetings, and a resolution finally passed allowing contract practice,⁶⁶ since the question was causing certain members to remain away from meetings. LeConte signed the fee bill and complied with its regulations and was appointed a member of a Committee of Vigilance to enforce observation by the profession of the fee bill.⁶⁷

LeConte's interest in the library which had been founded in 1809, was considerable. In 1844 he was made librarian of the society. His report on the library, made on January 30, 1845,⁶⁸ is so valuable and interesting that the writer has made a copy of it and added it to this essay as a historical document to be preserved in the records of our society. The report is too long to read in its entirety, but the following selections are here presented:

"Your librarian begs leave to report that he has had occasion to examine almost every volume contained in your small library during the past year and that he finds that although comparatively small, it embraces many important and valuable scientific productions."

"Your librarian embraces the occasion respectfully to urge upon the members of your society the necessity of observing a rigid punctuality in the payment of their annual contributions . . . so that there should be a considerable annual surplus on hand every year which

may be appropriated to the increasing of your library. A good medical library is a great Desideratum in your city and you are already in the possession of a nucleus.

"We ought to endeavor to infuse more spirit into our meetings, to assemble more frequently and to promote cordiality of feeling among the members.

"The experience of late years . . . has abundantly shown that the dignity and responsibility of the profession is to be promoted not so much by legislative enactments . . . as by an increase of individual zeal and more cordial cooperation.

"To stimulate into healthy exercise this spirit of diligent study and research and to develop this feeling of honorable emulation, nothing is more essential to the physician than to be able to have access to a good repository of medical literature."

Beyond question the medical debates held as parts of the programs of the society were at times sources of irritation and occasional controversial discourse. Frequently the questions considered were matters of opinion or phases of medical philosophy, not based on exact medical knowledge and not closely related to medical experience. Much of the discourse of that type would today be regarded as futile and based on a sort of medical metaphysics, as indeed it was. There is one great advantage in having the record of these debates preserved, even in scanty form. They serve as records of the medical thought of the time in a form readily to be understood.

The following illustrations indicate the types of questions used in these medical debates and the results as recorded in the minutes are given:

On Oct. 3, 1844, the following subject was debated: "Is puerperal fever ever contagious and has it any connection with epidemic erysipelas in its origin?" Dr. John F. Posey and Dr. Henry Saunders conducted the debate and most of the members present continued the discussion. The decision was nine votes for the negative and zero for the affirmative. The decision is in exact opposition to the opinion present commonly accepted. In 1843 Dr. Oliver Wendell Holmes⁶⁹ had presented his observations and argument that puerperal fever was contagious⁷⁰ and that it was often spread by the doctor himself, but this unwelcome opinion had not been yet accepted by the medical profession.

On Nov. 16, 1843, the subject of the debate was "Is there such a thing as metastasis of disease, strictly speaking?" Dr. LeConte took the negative side of the debate, but the decision of the society was not recorded. The subject was considered so interesting that the debate was continued at the next meeting.

In the meetings of April 6 and 20, 1843, the subject of debate was: "Is there any truth in mesmerism?" A committee was appointed, on which Dr. LeConte was

a member, to investigate the subject, but after several meetings occurred without report, the committee was dismissed.⁷¹

On Feb. 9, 1843, Dr. Alexander Cunningham read a paper on the subject of contagion, and a debate was held on the question, "Is yellow fever transmissible from place to place?" The decision was not recorded but there is no doubt that members of the medical profession of Savannah at that time were unanimously of the opinion that yellow fever was not contagious, that it was not transmitted from place to place, and that maritime quarantine was not necessary for its control.

On Feb. 23, 1843, the subject of debate was, "Is syphilis of American or European origin?" This subject was so interesting that on May 18, 1843, Dr. LeConte prepared a long and learned essay on the subject, holding that the disease was not of American origin, the theory at one time commonly held. Dr. LeConte's essay gives evidence of his extensive reading and knowledge, and its presentation was probably an unusual occasion for the medical society.

On Oct. 2, 1845, the following question of theoretical interest was discussed: "Is the primary impression producing febrile disease made on the nervous or circulatory system?" The vote was affirmative seven; negative zero.

On Aug. 7, 1845, Dr. LeConte presented a paper on the subject, "Experiments illustrating the seat of volition in the alligator or *Crocodilus Lucius* of Curvier." This paper contained the discussion of original observations and experiments made by LeConte, and proving that certain purposive movements in the adult crocodile have their origin in the spinal cord, since they can be observed in animals recently decapitated. LeConte had noted, in his youthful hunting experiences, that reflex muscular reaction occurred in injured alligators and planned observation and experiments to determine the location of the central nervous control of such movements. These experiments were probably the first work in experimental animal physiology in Savannah. Drs. James B. Morel, John F. Posey, and Johnston B. Tufts, assisted Dr. LeConte in these experiments, and a demonstration was made before members of the society. On Nov. 18, 1845, Dr. LeConte repeated his experiment on the body of a young alligator, only twelve inches long, assisted by his brother, Dr. Joseph LeConte, who was studying medicine with him, and found that, in the young specimen, these reflexes of a purposive character were not exhibited. In these reports and in a review of Bennett Dowler's paper entitled "Natural History of the Crocodile,"⁷² Dr. LeConte presented evidence of a full knowledge of the anatomy, habits and natural history of the alligator, and corrected false statements in Dowler's paper. Dowler's publication was made after LeConte's work and was less complete, yet an attempt has been made to claim the credit of this discovery for Dr. Dowler.⁷³

Dr. LeConte's reputation as a scientist depends largely upon his works in physics, but a list of his medical papers indicates that his medical contributions were considerable

in number and important in character, and that many of these papers were either written in Savannah or based on observations and studies made during his residence in Savannah, or at least begun, if not completed, in Georgia.

The scientific discoveries of John LeConte are well described in a biographic sketch by Prof. Walter LeConte Stevens,⁷⁴ who listed over fifty papers written by LeConte. A memoir of John LeConte was also written by Prof. Joseph LeConte.⁷⁵ There are many references to John LeConte and to his scientific work in the autobiography of Joseph LeConte. On April 29, 1892, the Academic Senate of the University of California honored the memory of John LeConte in a formal memorial. From these sources an abstract of Dr. LeConte's original scientific work of non-medical character has been made by the writer:

- I. Experiments on the Seat of Volition in the Alligator, a contribution to physiology already referred to above.
- II. Ice ribbons and their mode of formation. Certain plants along the coast of Georgia, during periods of freezing, are covered with long convoluted ribbons like exudations of ice. LeConte explained the method of formation of these ice ribbons and of similar protrusions of silky, fibrous ice columns from soils, especially from the red clay soils of Georgia.
- III. For his studies on the physics of sound, especially the influence of sound waves on the flame of gas jets, with pressure adjusted so that the flame is sensitive to the air waves, which produce waves in sensitive flames, corresponding in number to the number of vibrations per second of the sound wave itself.
- IV. LeConte confirmed LaPlacé's observation and mathematic demonstration of the discrepancy between the computed and observed velocity of sound waves—a further contribution to the physics of sound.
- V. Further contributions to the physics of sound—the observation of sound-shadows in water. Sound waves similarly to light waves produce shadows when obstructed. In experiments conducted in San Francisco Bay, LeConte compared sound shadows with light shadows, showing that sound shadows occur, but are less sharply defined than light shadows; that sound shadows from short waves, such as are made when under-water blasting with dynamite is performed, are more sharply defined than sound shadows made by coarse sounds of longer wave length.
- VI. Physical studies of waters, especially with reference to their color. LeConte made his first studies of

water in Georgia, testing the color of water specimens in very long tubes. He explained the blue color of deep, clear water as due in part to the selective absorption of deep masses of clear water from the red end of the spectrum (leaving the blue), partly to selective reflections from fine sediment in the water, to be found even in water considered clear. The green color of shallow water is due to the mixture of the blue color of the water and the yellow color of the sand bottom. LeConte stated that the water of Silver Springs, Fla.,⁷⁶ was the clearest that he examined, and added that if the springs were deeper the color would be blue, since its depth would allow the selective operation of color to be effective. If LeConte had observed the water of Wakulla Spring, Fla., near Tallahassee, his observations would have been confirmed, since in the deep parts of Wakulla (which is deeper than Silver Springs) a deep blue color is observed. It is stated that in making under-water photographs at Silver Springs, the blue color of the water can be observed there also. LeConte continued the observations begun in Georgia after his removal to California, studying the deep blue waters of Lake Tahoe.

For these contributions to physics, communicated and published in a number of essays, LeConte's reputation as a scientist became national and international, and he received recognition and high honors.

It is stated that LeConte's published papers, including some minor papers, and some reprints in popular form, number over one hundred. Prof. Walter LeConte Stevens^{76b} lists fifty papers of major interest. The extent of LeConte's knowledge and the versatility of his scientific attainments are illustrated in the following classification of the papers listed by Stevens:

Medicine	8 essays
Physiology	5 essays
Anatomy	1 essay
Surgery	1 essay
Public Health	4 essays
Physics	16 essays
Miscellaneous	15 essays

The papers of the first four classifications are all to be considered of medical interest, comprising twenty papers in all.

Dr. John LeConte's contributions to medicine were substantial and of real value to the progress of medicine and public health, though admittedly of less value than his contributions to physics. In addition to the papers on "The Physiology of the Nervous System of the Alligator" and on "The History of Syphilis" above noted, he wrote the

following medical papers, some of which contain original and valuable contributions to medical science:

- I. On the Venomous Serpents of Georgia, Natural History and Physiology. This paper was written at Athens, and published in the *Southern Medical and Surgical Journal*⁷⁷ but was based on LeConte's observations while residing at Woodmanston and in Savannah, where he occasionally treated bites by the venomous serpents. The essay is an excellent one, about what would be written today, except for the inclusion of the curative actions of snake-venom serum. LeConte makes the shrewd observation that specimens of the larger species of rattlesnakes are seldom seen alive, though relatively abundant in the coastal area, and states that he himself saw but one specimen alive. This is, of course, due to the nocturnal habits of these large rattlesnakes.
- II. Statistical Researches on Cancer.⁷⁸
- III. Vital Statistics, illustrated by the Laws of Mortality from Cancer.⁷⁹
- IV. Vital Statistics and the True Coefficient of Mortality, illustrated by Cancer⁸⁰
- V. The True Coefficient of Mortality.⁸¹

These studies were begun in Savannah, where LeConte had a patient suffering with cancer of the stomach. This disease, now at times curable if patients come under observation in an early period of the disease, was then invariably fatal. After doing what was possible to conserve the strength of his patient and prevent suffering, LeConte, as was his custom, began a careful research on the subject of the disease he was treating, and made substantial contributions to the knowledge of cancer. These studies began in Savannah and were continued during his entire academic service. From statistical studies (not, of course, based on Georgia statistics for cancer, which did not exist), he came to the conclusion that cancer was increasing in amount and becoming a matter of increased medical importance. LeConte was the first American observer to arrive at this conclusion and his publications on the subject were of the nature of a prophecy, foretelling the present condition, that cancer has become a grave problem of public health. In connection with these studies, LeConte made another important discovery, that the true ratio of the incidence of the morbidity and mortality of disease is the ratio of the number of persons having the disease (or the number of per-

sons dying of the disease) to that part of the population susceptible to the disease, and not to the whole population. For instance, the true ratio or coefficient of cancer of the uterus is the ratio of the number of observed cases to the number of females who have reached the childbearing age, cancer of the uterus rarely occurring in females below that age. Formerly all mortality rates were estimated in the entire population; for instance, the infant death rate was estimated at so many deaths per one hundred thousand population (now the infant mortality rate is the ratio of the number of infants under one year of age) to the number of live infants of that age and under. In practice the base is taken on the number of live infants born during the period, usually one year. Ratios of this specific character are more useful than ratios based on the entire population for the purpose of public health control. LeConte was the first American observer to use this method of calculation as applied to cancer. Present-day health officials, many of them, use the system, but are not informed of its origin.

LeConte's other medical papers, most of them written during his residence in Savannah, were as follows:

- VI. On the Mechanism of Vomiting.⁸²
- VII. The Explanation of the Difference in Size of the Male and Female Urinary Bladder.⁸³
- VIII. Remarks on Cases of Inflamed Knee Joints.⁸⁴
- IX. Extraordinary Effects of a Stroke of Lightning's Singular Phenomena.⁸⁵
- X. On the Quarantine Regulations of Savannah, Georgia.⁸⁶
- XI. Remarks on the Physiology of the Voice.⁸⁷
- XII. On Sulphuric Ether.⁸⁸
- XIII. The Philosophy of Medicine.⁸⁹
- XIV. Cachexia Africana, or Dirt Eating.⁹⁰

LeConte's plantation experiences led him to take an interest in the diseases of the African race. One of his most interesting papers is on the subject of Geophagy, Dirt Eating, or Cachexia Africana. We now know that this form of malnutrition is due primarily to infection with hookworms. LeConte's essay is a long and scholarly account of the condition as he observed it in Georgia. He refers extensively to the history of the disease in other parts of the

Southland and elsewhere. The essay is still of value as a contribution to the knowledge of nutrition. LeConte, in prophetic sentences, indicates that there are certain unknown organic constituents of food which are indispensable to healthy nutrition, in addition to the organic and inorganic food elements already known. The discovery of vitamins has confirmed LeConte's prophecy.

During the period of his residence in Savannah, LeConte was a contributing editor of the Southern Medical and Surgical Journal and had numerous short contributions in the form of book reviews, notices, etc. The number and variety and character of these communications demonstrated the acuteness and versatility of LeConte's mind, and indicated that he was constantly receiving and reading the medical literature of the day. In one of the journals for 1847⁹¹ LeConte contributed a note on sulphuric ether. There were three notes on ether in the issues for 1847, some of them made by the editor, Dr. Paul Eve. Dr. Jackson and Dr. Morton were mentioned in connection with the discovery of anesthesia, but no reference was made to the Georgia physician, Dr. Crawford W. Long, who made the first discovery of the surgical value of ether, for the regrettable reason that Dr. Long had failed to make his discovery known. It is interesting to speculate what might have happened if Crawford Long, instead of having been isolated in the country region of North Georgia, had made his discovery at some large center in Georgia, either Augusta or Savannah. Under such circumstances, the discovery would have certainly become known to Dr. Eve and to Dr. LeConte, who would have at once recognized the great value of the discovery and the necessity of Dr. Long announcing it promptly to the medical profession, so that it could come into general use and the credit, both for the discovery and its gift to the world, be given to the original discoverer for his contributions to medical science and public health.

On the editorial pages of the Southern Medical and Surgical Journal for 1846,⁹² the following note by the editor, Dr. Paul F. Eve, is published:

"Dr. John LeConte, one of the able collaborators of this journal, was elected Professor of Natural Philosophy and Chemistry in Franklin College, University of the State of Georgia, located at Athens. We consider the doctor eminently qualified for his new duties."

The publication of this item marked the end of Dr. LeConte's service as a physician in Savannah, and the beginning of a career as an academic research worker and teacher of science. The prophecy made that he was "eminently qualified for his new duties" has been amply proved by the progress made in science by LeConte between 1846 and 1891, the date of LeConte's death in California. The students of three great universities, Georgia, South Carolina and California,⁹³ remember his accomplishments and honor him both as a man and a scientist. It is for us in Savannah to remember that to Georgia belongs the honor of his birth, his education and upbringing, and of being the source of his inspiration for his life's work.

REFERENCES

1. Prepared with the cooperation of members of the Savannah Historical Research Association, and read before a meeting of that organization; Wednesday, Jan. 26, 1938.
2. Minutes, Georgia Medical Society.
3. Bassett, V. H.: "A Southern Medical Student in the Year 1801"; unpublished manuscript, Savannah Historical Research Association.
4. Compare statement of Dr. Richard Arnold, p. 75, "The Arnold Letters." Edited by Dr. Richard Shryock, Trinity College Historical Papers, Duke University Press, Durham, N. C., 1929.
5. "The Autobiography of Joseph LeConte." Ed. by Wm. D. Armes, N. Y., Appleton & Co.
6. The preferred spelling of the middle name is Eaton, but the form "Eatton" is retained since it was the form used by the family. John LeConte, Esq., "Observations on the Febrile Diseases of Savannah," American Medical Register, N. Y., 1814, pp. 388-390, (Letter dated 1809).
7. The Turtles, Lizards and Frogs of Georgia—Original sketches in water color; DeRenne Library. There are also seven volumes of LeConte's sketches of insects in the Library of the Shaw Garden, St. Louis, Mo.
8. "Mémorial of John Lawrence LeConte," by S. H. Scudder, National Academy of Science, Biographical Memoirs, Vol. II, 1886.
9. Loudon's Encyclopedia of Gardening; See Note, Bassett, "Voices of the Past," p. 23; See also "Autobiography of Joseph LeConte," p. 10.
10. Scudder, L. C.
11. L. O. Howard, "Biographical Sketch of Dr. John Lawrence LeConte."
12. Autobiography, p. 184.
13. Autobiography, p. 30.
14. Autobiography, p. 12.
15. Autobiography, p. 54.
16. Autobiography, p. 103.
17. Autobiography, p. 124.
18. Autobiography, p. 58.
19. The writer can find no record of Dr. John LeConte's joining the Medical Association of Georgia. Joseph LeConte became a member in 1851.
20. Joseph LeConte, "Evolution and Its Relation to Religious Thought." D. Appleton & Co., New York, 1888.
21. Joseph LeConte, "Religion and Science." D. Appleton & Co., N. Y., 1874.
22. Autobiography, p. 2.
23. Autobiography, pp. 2-3; Also at a plantation named Fromentin—William Darlington, Reliquiae Baldwinianae, p. 332.—Philadelphia, 1843, Kimber and Sharples.
- 23(a). Autobiography, p. 56; Walter LeConte Stevens, "Sketch of Prof. John LeConte," Popular Science Monthly, November, 1889.
- 23(b). Minutes, Georgia Medical Society, 1841-1846.
- 23(c). Mortuary Records, City of Savannah, 1841-1846. No patients.
24. Minutes, Georgia Medical Society, Book III, pp. 111-112, Jan. 26, 1843.
25. Minutes, Georgia Medical Society, p. 157.
26. Medical Repository, Vol. II—Second Hexade, 1805, p. 209. Dr. Wm. Parker (1766-1823) and Dr. Wm. Cocke (—1809).
27. Dr. John Bricknell (1749-1809) and others.
28. Dr. Alexander Habersham (—) and others.
29. Including Drs. Henry K. Burroughs (1809-1851); Alex Telfair Cunningham (1785-1861); Wm. Alexander Caruthers (—1846); Philip Minis (1805-1855); H. Saunders (elected 1839); Saml. A. T. Lawrence (1810-1860); A. H. Bailey (1816-1849); Cosmo P. Richardsone (1804-1852); C. Anderson Watkins (elected 1839); James J. Wall (elected 1839); John M. Cuyler (elected 1843); J. T. Bartow (1819-1846); James F. Griffin; T. G. Barnard (—1849); Edward Coppee (elected 1827); Richard Wayne (1804-1858); J. G. Howard (1817-1866).
30. Including Drs. J. R. Saussy, Sheftall, Mitchell, Verderie, Wragg and others.
31. Drs. J. P. Screven, Wm. C. Daniel, Solomon Sheftall.
32. Including Drs. Richard Dennis Arnold (1808-1876); Bulloch, (Note 33); Joseph Clay Habersham, Sr. (1790-1855); Phineas Miller Kollock (1804-1872) and John D. Fish (1823-1819).
33. Including Drs. James Montford Schley (1816-1874); Wm. Gaston Bulloch (1814-1885) and James Proctor Screven (1799-1859).
34. Founded.
35. Founded 1765.
36. See Note No. 26.
37. General Catalogue, University of Pennsylvania, 1845.
38. Savannah Medical College—First class graduated in 1854. Organized, 1853.
39. A circular letter on the subject of medical licenses was issued by the Georgia Medical Society in 1805—Kollock Memorial.
40. Acts of the General Assembly of the State of Georgia, 1821, pp. 81-85; Milledgeville, 1821.
41. Cobb, H.: A Compilation of the General & Public Statistics of the State of Georgia, pp. 443-445, New York, 1859.
42. Minutes of the State License Board—Department of Archives, Atlanta.
43. Code—State of Georgia, 1837.
44. Georgia Republican and State Intelligencer, October 25, 1805.
45. Gamble, L. C., pp. 81, 146.
46. Gamble, L. C., p. 314; Charlton, R. M., History of the Georgia Infirmary.
47. Dr. Moses Sheftall (1769-1835) was health officer (1800-1802).
48. Health officers 1841-1846: Dr. Wm. Bacon Stevens, Dr. H. Saunders, Dr. James S. Morel, Dr. J. Blakely Tufts, Dr. J. M. Schley—Gamble, Thomas, "History of the City Government," p. 499, Savannah, 1900.
49. Wm. R. Waring, "The Epidemic Diseases of 1820." Report to Council, Savannah, 1821.
50. Bassett, V. H., "Plantation Medicine," Savannah, 1937.
51. After 1820.
52. Autobiography, L. C., p. 6.
53. Middleton M'chel, Address to the Medical Society, Charleston, 1889.
54. Medical Repository, Vol. II, p. 209, 1805.
55. Dr. James Bond Read (the elder) (C1766-1841).
56. Dr. Wm. R. Waring (C1788-1843).
57. Dr. Richard Dennis Arnold (1808-1876).
58. Including Drs. T. D. Matthews, John D. Fish, J. B. Gilbert, W. Adamson, W. S. Kinnelly, Thomas Stewardson.
59. Gamble, L. C., p. 85.
60. Dr. Theodosius Bartow (1774-1857).
61. Minutes, Georgia Medical Society, Book III, p. 141, Jan. 4, 1844.
62. Including the Medico-Chirurgical Review and The London Lancet, American Edition. Minutes, Nov. 16, 1843; Also Sydenham Society Publications.
63. Minutes of the Union Society—Savannah, 1860, p. 53. The rules of the year 1808 levied a fine of 50c on absent members and fines of \$1.50 to \$3.00 on absent officers; p. 6. On April 23, 1792, Dr. Noble W. Jones paid for fines and contributions the sum of 12s, 10d.
64. See Note No. 50.
65. Fee Bill, Minutes, Georgia Medical Society—Book III. Adopted Feb. 15, 1844.
66. Minutes, Vol. III, p. 187, June 5, 1845.
67. Minutes, Vol. III, p. 187, June 5, 1845.
68. Minutes, Vol. III, p. 187, June 5, 1845.
69. Dr. Oliver Wendell Holmes (1809-1894) Professor of Anatomy in Harvard University Medical School.

70. New England Quarterly Journal of Medicine and Surgery, Boston, 1842-43, Vol. I, pp. 503-530.
71. The subject had recently been discussed by Drs. Eve and Dugas of Augusta, Georgia, Southern Medical and Surgical Journal.
72. Bennett Dowler, Southern Medical and Surgical Journal, Vol. III, (1847), p. 89.
73. Bennett Dowler, Southern Medical and Surgical Journal, Vol. III, (1847), p. 89.
74. Sketch of Prof. John LeConte, by Walter LeConte Stevens, Report from Popular Science Monthly, November, 1889.
75. Memoir of John LeConte, by Joseph LeConte; Biographical Memoirs, Vol. III, 1895. National Academy of Science.
76. A large, deep spring near Ocala, Fla.
- 76(a). Wakulla—A smaller spring near Tallahassee, Fla.
- 76(b). Sketch of John LeConte.
77. Vol. IX, No. 11, 1853, pp. 645-667.
78. Southern Medical and Surgical Journal, 1846.
79. Western Lancet, 1872.
80. Tenth Biennial Report of the State Board of Health.
81. Nature, 1881.
82. New York Lancet, 1842.
83. New York Lancet, 1842.
84. New York Journal of Medical and Collateral Sciences, 1844.
85. New York Journal of Medical and Collateral Sciences, 1844.
86. New York Journal of Medical and Collateral Sciences, 1846.
87. Southern Medical and Surgical Journal, 1846.
88. Southern Medical and Surgical Journal, 1847.
89. Southern Medical and Surgical Journal, 1849.
90. Southern Medical and Surgical Journal, 1845.
91. Southern Medical and Surgical Journal, Vol. III.
92. Southern Medical and Surgical Journal, 1846, Vol. II.
93. The memory of the LeContes is perpetuated by the erection of "Science Halls" for educational purposes in three state universities, located in Georgia, in South Carolina and in California. A new building is planned for the University of Georgia, to be named LeConte Hall.

DR. RICHARD DENNIS ARNOLD (1808-1876)

No list of the leading doctors of Georgia for all time would be complete without including the name of Dr. R. D. Arnold, of Savannah. His was a busy, useful life. He was born in Savannah in 1808, and died in the same city in 1876, of phthisis pulmonalis. After graduating with high honors from Princeton University, he studied medicine in the office of Dr. W. R. Waring, in Savannah, and received the degree of Doctor of Medicine from the University of Pennsylvania in 1830, nine years before Crawford Long received his degree from the same renowned institution. After serving as house physician in Blockley Hospital, Philadelphia, for two years, he returned to Savannah to practice medicine, where he soon made an enviable reputation as a physician and as a citizen. In 1835 he was appointed one of the physicians to the Savannah Hospital, a position which he held for thirty-five years. Although he was physician to many of the wealthiest citizens of the city, all through

his life he found pleasure in gratuitous services to the poor.

Dr. Arnold was one of the founders, and the first secretary of the American Medical Association, organized in New York City in 1846. He was a member of the committee which wrote its first code of ethics. In 1852 he was elected vice-president. He was a charter member of the Medical Association of Georgia, and in 1851 was its president. He also helped organize the Savannah Medical College in 1853, and for many years filled the chair of the theory and practice of medicine. No man labored more assiduously to promote the sanitary conditions of the city. It was mainly through his efforts that rice fields, with their stagnant water, were discontinued in the city limits. He was a member of the Board of Health, and aided in securing an ample and healthful water supply. His interest in public affairs led him into politics, and for four terms he served Savannah as its mayor. He also was a member of the Georgia House of Representatives and the Senate.

This versatile member of the medical profession was an authority on yellow fever, and wrote several valuable papers on the subject, such as "The Relation of Bilious and Yellow Fevers," "Identity of Dengue, or Break-Bone Fever and Yellow Fever," and "The Yellow Fever Epidemics of Savannah in 1847 and 1848." He helped teach the profession the differential diagnosis between yellow fever and malarial fever. In the several epidemics of yellow fever during his lifetime Dr. Arnold rendered conspicuous assistance. His description of the pathologic anatomy of the liver in the disease, with colored plates prepared under his direction, attracted attention throughout the medical world.

R. D. Arnold was one of the most beloved physicians of his native city. His death, in 1876, was mourned by rich and poor alike, and his funeral was one of the largest ever held in Savannah. In his passing the city and State lost a noble citizen, and the medical profession lost one of its most distinguished honorable members.

FRANK K. BOLAND, M.D.

DR. VICTOR HUGO BASSETT
(1871-1938)

In the death of Dr. Victor Hugo Bassett, of Savannah, Nov. 3, 1938, the Medical Association of Georgia lost an outstanding member of great usefulness. Every member of the medical profession contributes something worth while to medicine, to his patients and to his community. Sometimes in preparing an obituary notice of a deceased physician one experiences difficulty in determining what such contributions may have been, but such is not true in writing about Dr. Bassett. His work for public health and medical history was so definite and extensive as to at once proclaim him one of the leaders of all time in these two important fields. He seemed to be a man with a mission, and labored unceasingly and most successfully to reach a goal which he had set for himself.

Dr. Bassett was born May 7, 1871, in Aledo, Illinois. His parents, Mr. and Mrs. Isaac Bassett, came originally from Kentucky. After receiving a thorough premedical course at Knox College he studied medicine at the University of Wisconsin and the Johns Hopkins Hospital, Baltimore. His later experiences included the position of pathologist to hospitals in Baltimore, Chicago and Milwaukee. He then became assistant bacteriologist to the Wisconsin State Board of Health and specialized in dairy bacteriology in the Wisconsin Agricultural Station and Experimental Dairy.

At the time of his appointment to Savannah, in 1908, Dr. Bassett was professor of bacteriology and pathology in the Milwaukee Medical School and assistant superintendent and resident pathologist in the Milwaukee County Hospital. He won his appointment to Savannah by competitive examination, his first position being that of city bacteriologist. He became city health officer in 1923, and in 1928 his jurisdiction was extended to include Chatham County. He served under Dr. W. F. Brunner, health officer, from 1908 to 1923.

Dr. Bassett's untiring energy and interest in his work resulted in continual progress locally with respect to sanitation, abolition of outworn and backward public health technic,

and the introduction of modern, effective methods of waging a wholesale fight against disease in the Chatham area. He preferred to remain in Savannah despite numerous offers of larger and more remunerative posts in cities of greater population. His regime in the city health department saw the establishment of a city laboratory and diagnostic health laboratory, as well as the coordination of the Health Center and city public health service nurses under a city director of nurses. He deplored the fact that Savannah lacked sufficient hospital facilities to care for patients having communicable diseases, typhoid fever and tuberculosis among the indigent.

A firm believer in statistical research, in 1926 Dr. Bassett caused the vital statistics records of Savannah to be indexed, so that at the present time information on deaths is available from 1803, and on births from 1890. Infant mortality rates in that city have been lowered and a considerable reduction has been noticed in prenatal deaths, especially among Negroes. Not only have the midwives of Savannah and Chatham County been brought under a midwife control ordinance, but the prenatal clinics of the city health department and the Health Center have been materially improved. Dr. Bassett was a fellow of the American Public Health Association, and at one time was vice-president of the Georgia Public Health Association. As librarian of the Georgia Medical Society, he rearranged and indexed the society's collection of books. In 1931 a report on health work in Savannah attracted national attention and Dr. Bassett was invited to attend a White House Conference on child welfare.

Besides important technical studies on diphtheria, typhoid fever, tetanus and dysentery, Dr. Bassett contributed papers on the history of medicine and was the author of "Voices of the Past," a series of biographic sketches of eminent physicians of Southeastern Georgia. He was a member of the Committee on Medical History of the Medical Association of Georgia. He originated a newspaper feature, "Healthgrams," as part of a campaign to educate the public on health questions.

Among Dr. Bassett's papers are the following:

"Examination of Milk for Tubercle Bacilli," and other papers, Bulletin of the Wisconsin Agricultural Experiment Station, 1899.

"The Significance of Certain Gas-Producing Bacteria of Non-colon Type in Sanitary Water Analysis," read before the American Public Health Association, 1899.

"Typhoid Infection Without Lesions of the Intestine," Johns Hopkins Hospital Bulletin, July, 1901.

"An Examination of Milk Supplied to Infants Suffering with Summer Diarrhea," Maryland Medical Journal, June, 1902.

"The Etiology of the Summer Diarrheas of Infants," American Medicine, Sept. 13, 1902.

"Duodenal Diverticula," Transactions of the Chicago Pathological Society, December, 1907.

"The Value of Blood Examinations in the Diagnosis of Diseases Associated with Enlargement of the Spleen," Journal of the Medical Association of Georgia, 1909.

"The Early History of Vaccination Against Smallpox in the Southeastern Part of the United States," Journal of the Florida Medical Association, February, 1935.

"A Medical Biography of Noble Wymberley Jones," Bulletin of the Georgia Medical Society, October, December, 1935, and January, 1936.

"Prevention of Tetanus Neonatorum in the South," Transactions of the Southern Branch, American Public Health Association, 1937.

"A Savannah Medical Student in the Year 1801."

"Two Women Doctors of Georgia in the First Half of the Nineteenth Century."

"A Biography of Dr. Lemuel Kollock of Savannah."

"Two Medical Martyrs of Georgia in 1819-1820," Savannah Morning News, Aug. 22, 1937; Aug. 29, 1937; Sept. 12, 1937.

"Voices From the Past" included sketches of the following Savannah doctors:

John Grimes, George Jones, James Glen, W. R. Waring, James Ewell, W. C. Daniell, Thomas H. Chivers, R. D. Arnold, J. S. Morel, Joseph L. Jones, P. M. Kollock, W. M. Charters, J. F. Posey, John LeConte, Moses Sheftall, Joseph E. White, John Brickell and Jacob De La Motto.

Dr. Bassett was a dignified man and a serious student of medicine, one whose life and labors made a profound impression upon those with whom he came in contact. He created an example which might well be emulated by succeeding generations of doctors, young and old. He is survived by his wife; one daughter, Mrs. Reuben A. Swenson, of Whiting, Indiana, and two grandchildren. Mrs. Bassett lent valuable aid to her husband in his various activities, and she has taken his place on the Committee on Medical History.

FRANK K. BOLAND, M.D.

SAVANNAH HOSPITALS, 1940*

WARREN A. CANDLER HOSPITAL

The first effort to establish anything like a hospital in Savannah seems to have been made in 1803, when a grant of land which perhaps included the present hospital site was made for building a seaman's hospital and poor house, but the effort was abandoned and nothing further was done along that line for nearly thirty years.

In 1830 the Legislature incorporated the Savannah Poor House and Hospital, and the City of Savannah erected a building which was used for hospital purposes on a tract of land of rather indefinite location and boundaries.

In 1852 the present site, bounded by Gaston, Abercorn, Huntingdon and Drayton streets, was conveyed to the same corporation in exchange for its claims to any other tract, and apparently the nucleus of the present building was erected by the city and operated by the hospital corporation. The deed reserved a reversionary interest to the City of Savannah, providing that the property would revert to the city upon certain conditions named in the deed.

In 1872 the name of the corporation was changed by the Legislature to the Savannah Hospital, the efforts of the institution having become limited to the care of the sick. The present building was completed in 1877.

Numerous philanthropic citizens have contributed to the work of the hospital from time to time, including possibly the erection and remodeling of the present building.

The charter of the hospital contained the provision that the Managers of the same should be elected annually by those persons who contributed a fixed sum from year to year to the support of the hospital, this sum being originally \$5.00 and later \$10.00, and it was thought this would constitute a substantial income.

The public spasmodically would show sufficient interest in the institution to pay and vote, but generally very little interest was shown and finally almost none at all. Gradually there had sprung up a feeling that the hospital facilities of the city were too limited, and citizens of every class felt that the Board of Managers was doing the very best that could be done under the circumstances but that a change was desirable, and the Board shared this opinion.

During the year 1930 the matter of a change was generally discussed and after some negotiations a committee of nine citizens was appointed to consider the entire situation; three appointed by the City, three by the Managers of the hospital, and three representing the General Hos-

*THE JOURNAL is indebted to the superintendents of Savannah's hospitals for supplying the information here published. No effort was made to rearrange the material submitted by them, but the hospitals have been listed with respect to their ages.

†Dr. H. M. Kandel, of Savannah, very kindly photographed the hospitals and the Georgia Medical Society Building.

*Warren A.
Candler
Hospital,
Savannah*



pital Board of the Methodist Episcopal Church, South, said Board being a corporation under the laws of the State of Georgia. This committee of nine met at the City Hall, and after some discussion it appeared to be the unanimous opinion that a change was desirable if there were no legal obstacles. The matter was therefore referred to a sub-committee of three attorneys representing the negotiating parties, and at a subsequent meeting of the full committee held at the City Hall on Sept. 24, 1930, the sub-committee gave its unanimous opinion that the city had a right to sell its reversionary interest to the General Hospital Board. The Mayor immediately referred the matter to the Committee on City Lots and Opening Streets of City Council to determine the value of such reversionary interest, and the Committee promptly reported at the next meeting of city council that the reversionary interest was worth \$1,000.

On Nov. 13, 1930, the Mayor and Aldermen in Council assembled and passed unanimously a resolution authorizing the sale of the said reversionary interest of the city to the General Hospital Board, and a group of public-spirited citizens at once agreed to pay the amount. The General Hospital Board was without authority to undertake the project without the approval of the South Georgia Conference of the Methodist Episcopal Church, South, in whose territory the hospital in the City of Savannah would be located, and therefore at the regular session of said conference a resolution was passed on Nov. 21, 1930, at its session at Thomasville, Georgia, approving the project and authorizing the General Hospital Board to assume the ownership and operation of the Savannah Hospital.

On Dec. 16, 1930, the group of forward-looking and public-spirited citizens without regard to church affiliations paid the City of Savannah the sum of \$1,000 and all interest of the City was conveyed to the General Hospital Board.

On Feb. 2, 1931, the Superior Court of Chatham County granted a decree authorizing the Savannah Hospital and its Board of Managers to convey its property to the General Hospital Board, and on Mar. 3, 1931, in compliance with proper corporate action, all its property including hospital site and grounds, and personal property with endowment was conveyed to said General Hospital Board.

Such action vested a complete title to all hospital property in the General Hospital Board and on Mar. 3, 1931, at a meeting of said Board held in Savannah the conveyance of the property was accepted and the said Board assumed ownership and control.

The General Board thereupon changed the name of the hospital to "The Warren A. Candler Hospital of Savannah," in honor of Bishop Warren A. Candler, of Atlanta, and appointed a local Board of Trustees or Managers for the conduct of the hospital.

Officers: Chas. W. Curry, Superintendent; W. A. Cole, M.D., President of Staff; Miss Louise Lenhardt, Superintendent of Nurses; John J. Cornell, Chairman of Board of Trustees.

GEORGIA INFIRMARY

Seven years ago, in 1932, the Georgia Infirmary, Savannah, celebrated its one hundredth anniversary. "All available information, and from sources considered the most correct, undoubtedly establishes the Georgia Infirmary as the first



*Georgia
Infirmary,
Savannah*

asylum and hospital founded in the United States, solely by whites and solely for Africans." In 1816, Thomas F. Williams wrote in his will, "I give and bequeath the said amount (the amount being \$10,000 in Georgia audited certificates and some uncollected debts), be it more or less, in trust to my hereinafter named executors, to be put at interest on good security and at the end of twelve and a half years, the principal and interest to be paid to the first incorporated body for the relief and protection of afflicted and aged Africans." On Dec. 24, 1832, the Georgia Infirmary was chartered, and on Jan. 15, 1833, the trustees held their first meeting.

The site chosen for the new institution was on Bethesda tract, ten miles from Savannah, and there it remained for five years. In 1838 it was moved to its present location.

During the first part of its existence the Georgia Infirmary was an asylum for the aged and afflicted. The latter part of its existence dates from 1871, when a reorganization took place. In the reorganization the hospital feature was stressed. A new building was needed and most of the funds for this were given by Edward Padelford, of Savannah, who donated \$10,000, and Frederick Marquard, of New York, who gave \$1,000. This building was opened in 1871, and is the brick portion of the present building.

By 1892 the building was badly in need of repairs. This was accomplished and the present wooden wings were added.

A training school for nurses was opened in 1904. The school was discontinued in 1937.

In 1871 there were 154 admissions to the hospital. In 1938 there were 2,133 patients admit-

ted, 564 operations were performed, and 257 babies delivered.

ST. JOSEPH'S HOSPITAL

St. Joseph's Hospital, Savannah, was founded in 1875. In that year Most Reverend William H. Gross, Bishop of Savannah, purchased the site which was previously the old Savannah Medical College building, on Taylor and Habersham streets. This was renovated and made suitable for the care of the sick, including government patients. The Sisters of Mercy of St. Vincent's Convent were in charge with Sister Mary Cecilia Superior.

For thirty years the Sisters had the care of marine patients. When these were removed to the Marine Hospital on Abercorn Street, the old building was torn down and replaced by the present St. Joseph's Hospital, covering a full city block.

In 1902 Sister Mary Dominica opened a school for student nurses, from which some two hundred fifty have graduated during the thirty-seven years which have passed. St. Joseph's School of Nursing at present has a total enrollment of forty-one students, for whom courses in theory and practice are carefully planned to fulfill the educational requirements of the Georgia State Nurses' Association. Sacred Heart Hall, an attractive and comfortable nurses' residence across from the hospital, was completed in 1936.

A thorough renovation and reconstruction of the entire hospital took place in 1930, and the present set-up is the result of frequent improvements in all departments. Today, St. Joseph's Hospital ranks second to none among small hospitals, in efficiency and service in its Medical,

*St. Joseph's
Hospital.
Savannah*



Surgical, Obstetrical, Gynecological, Orthopedic, Dietary, X-ray, Clinical Laboratory, and Accident Departments.

Accredited by the American College of Surgeons, it has an orthopedic service rendering invaluable aid to the crippled children of the State of Georgia, and it also accepts patients from the Hospital Service Association of Savannah, of which there are more than two thousand members, although the plan is still in its infancy.

Some forty of Savannah's most prominent and finest physicians are members of the hospital staff, with a yearly rotation of staff president. The 1939 officers were:

President	M. J. Egan, M.D.
Vice-President	H. M. Kandel, M.D.
Secretary	H. McGee, M.D.

There are fifteen Sisters of Mercy carrying on the work begun by older members of the Order, and among these are seven graduate nurses, two medical technologists, one pharmacist, one X-ray technician, and a record librarian.

TELFAIR HOSPITAL

Telfair Hospital, Savannah, was built in 1834-35 for the care of women and children. This was made possible through an endowment from Miss Mary Telfair, of Savannah, who also appointed the original Board of Directresses. Each member of this Board is supposed to hold office for life unless she resigns for some reason. To date there have been only four presidents: Mrs. Louisa F. Gilmer, ten years' service; Mrs. Louisa Porter Minis, twenty-five years' service; Mrs. Frank M. Chisholm, resigned after seven years' service; and Mrs. J. Randolph Anderson, who has been in office for twelve years.

For a number of years the superintendent of the hospital was always an English woman who had been properly trained in hospital management, and working with her were a number of English nurses. This custom was later abandoned.

In 1900 the first training school for nurses in Georgia was established in connection with this hospital. In 1935 the school was discontinued, as it was impossible to meet the growing technical requirements of the National and State Nurses' Associations governing training schools.

In 1927 the capacity of the hospital was found not sufficient to care for the number of patients, and the decrease in income due to the depreciation of the investments made it necessary to consider augmenting the income by other means. In 1927-28 a wing was added, connecting with the original building and giving an additional twenty-four rooms for private patients, which increased the bed capacity from fifty to seventy-five. Two floors of the wing, the basement and the fourth story were used for nurses' quarters, as the old nurses' home was razed to make room for the wing. The financing of the new wing was greatly helped by generous contributions of friends.

In 1930, for the first time, assistance was asked from city and county officials in caring for the indigent sick females and children of Savannah and Chatham County who sought treatment in the Telfair Hospital. The Board of Directresses was compelled to notify doctors in outlying counties of Georgia and adjacent states that they would no longer be able to continue taking their patients for free care.



*Telfair
Hospital,
Savannah*



*Charity
Hospital,
Savannah*

Telfair has a daily average of sixty-five patients. It has a pediatric ward of twelve beds, and the services of four pediatricians who divide the work into three consecutive months of service. Semi-private and free patients are treated in this ward, and its use is limited to staff members only.

The obstetrical service has five beds which are reserved for free cases, most of whom are sent in by the pre-natal clinic of the Savannah Health Center. This ward is under the care of the staff

obstetrician and the deliveries are done by the resident physician.

The medical and surgical service has seven beds for free adult cases and these patients are cared for by a regularly appointed staff, six surgeons and three internists. This ward is also limited to use by the staff.

Private rooms and semi-private wards are open to all physicians who are members of the Medical Association.

*United States
Marine
Hospital,
Savannah*



Telfair Hospital has a large number of obstetrical patients, due to the fact that only women and children are treated in this institution.

The nursing care in the hospital is performed by a staff of thirty-five graduate registered nurses. These nurses are carefully selected for their personality and efficiency.

The distinctive atmosphere of warm and kindly hospitality of the hospital is no doubt due to the cooperation between the Board of Directresses, the medical staff and the hospital staff, and to their keen interest in each one who becomes a patient in the hospital.

The present officers are:

President	Mrs. J. Randolph Anderson
Vice-President	Mrs. Anton Wright
Secretary	Mrs. Sarah O. Adams
Medical Director	Jabez Jones, M.D.
Superintendent	Miss Nannie W. Tew, R.N.

CHARITY HOSPITAL

Charity Hospital and Training School for Nurses, Savannah, had as its beginning McKane School for Nurses. This school was founded Sept. 4, 1893, by Drs. Cornelius and Woodby McKane in their home at Liberty and Montgomery streets, Savannah, and operated until October, 1896. This was the first training school for colored nurses in Southeast Georgia.

McKane Hospital for Women and Children (Oct., 1896-Feb. 12, 1901). A nurse training school without patients and other clinical opportunities was deficient. Accordingly, in October, 1896, the McKane Hospital for Women and Children came into being in another remodeled residence at Florence and Thirty-sixth streets,

affording clinical advantages to colored nurses and doctors.

Charity Hospital and Training School for Nurses (Feb. 12, 1901). There arose a demand for admission of colored men to the hospital for care and treatment which was met, and another change of name was the result with the grant of a charter Feb. 12, 1901, to Charity Hospital and Training School for Nurses.

New Building (April 15, 1931). Need for greater capacity and more efficiency was met with the erection adjacent to the old conglomerate building of the present modern \$125,000 plant, into which patients were transferred April 15, 1931.

Means of Financing the Project. The Rosenwald Fund, Mrs. Henry W. Hodge and other white and colored citizens, furnished the necessary capital.

Bed Capacity. Lack of adequate maintenance funds limits the present capacity of the hospital to forty-three beds. The potential capacity is eighty beds.

Housing for Sundry Clinics. Housing is provided in the furnished and unfurnished basement of the building for the following clinics: Chatham-Savannah Tuberculosis Association, which includes the Pneumothorax Clinic; Diagnostic and General Treatment Clinic; and the Colored Women's Federation Clinics, which include the Children's Clinic, the Nose and Throat Clinic, and the Babies' Clinic.

Number of Patients, 1938. Twenty-two hundred and fifty-eight patients were cared for in the hospital in 1938. Three hundred received treatment in the Out-Patient Department.



*Oglethorpe
Sanatorium,
Savannah*

Ownership of the Hospital. The hospital is the property of the public.

Government. Charity Hospital is managed by two boards: 1. An Executive Board composed of white citizens, of which Capt. Robert M. Hitch is chairman. The function of this board is to finance the institution, and a Board of Trustees, the personnel of which are colored citizens. It manages the operation of the hospital's internal affairs. Mr. P. A. Denegal is president. These boards coordinate and cooperate with each other.

Staffs. The hospital is manned by two staffs: 1. A visiting staff of colored physicians and surgeons, and 2. A consulting staff of white physicians and surgeons. John K. Train, M.D., is chief of this staff.

Cost of Operation. The annual cost of operation for 1937 and 1938 was about \$22,000.

Income. The City of Savannah contributes to the support of the hospital \$4,750 annually. Chatham County contributes \$1,000. Further income is derived from private patients, donations, and drives.

Needs. Annual endowment of \$20,000. The hospital bed capacity and usefulness would be increased 50 per cent or more if an annual endowment of \$20,000 were available. A standard training school for nurses could be conducted and the original purpose of this movement carried on.

Example. Charity Hospital is a splendid example of interracial amity and cooperation.

UNITED STATES MARINE HOSPITAL

The U. S. Marine Hospital, Savannah, was opened to receive patients by the U. S. Public

Health Service on Nov. 1, 1906. From that time to the present it has been operated by the Public Health Service to take care of its various beneficiaries. It has a capacity of 190 beds.

(Much research work has been conducted in this hospital under the auspices of the Public Health Service, notably that on pellagra and typhus fever.—Ed.)

OGLETHORPE SANATORIUM

Oglethorpe Sanatorium, Savannah, was built in 1908 by Dr. John Daniel. It was built with the idea of caring for rest-cure patients and tourists. The rooms were large and had double beds. Dr. Daniel had a great deal of electric apparatus for giving treatments, such as constant current vibrator, cabinet baths, etc. There was a small operating room which took care of both surgical operations and obstetrical cases.

In 1910 Dr. T. P. Waring bought one-half interest in the hospital, and a surgical building was built, the third story of which was used for nurses' quarters. In 1916 Dr. Waring bought the remainder of Dr. Daniel's stock in the hospital.

In 1918 the Nurses' Home was built, and this gave the hospital eight more rooms for patients.

The nurses graduating from Oglethorpe were having trouble in doing government work, etc., on account of the size of the hospital. In 1925 the roof of the old medical building was raised and another eleven rooms were made available. The hospital now has a capacity of 50 beds and a daily average of 35 patients. The training school was discontinued in 1937.

*Central
of Georgia
Railway
Hospital,
Savannah*



CENTRAL OF GEORGIA RAILWAY HOSPITAL

The Central of Georgia Railway Hospital System completed its twelfth year of service to the employes of the railroad on July 1, 1939. It was the outgrowth of ten preceding years of work by the Surgical Department based upon the idea that health and physical fitness of the employes is a fundamental factor in the efficiency and well-being of the railroad.

The hospital in Savannah opened July 1, 1927, represents an investment of nearly half a million dollars in building and equipment. Its service is supplemented by examination and treatment at 16 hospitals not owned by the railway in other cities and on its line, and by company surgeons in principal communities. The equipment is complete and modern.

The hospital is a three-story building of white brick on a spacious shaded tract at Bull Street and Washington Avenue. On the first floor the entrance leads into a reception room, with office at the right. The x-ray room, the chief surgeon's office, examination rooms, laboratory and pharmacy are on this floor, as is the ward for colored patients. In the wing at the right are located the clinic rooms for examinations and treatments of "out-patients." At the left of the entrance is the wing where the nurses, all graduates of recognized institutions, make their home. The kitchen is also on this floor. A dietitian superintends the meals, which are prepared according to the individual needs of the patients, and are served to them direct from the kitchen. The second floor is devoted to private rooms and ward rooms, with two, three and four beds. There are

also a small surgery and utility rooms on this floor. Above the two wings are open-air solariums. The third floor is devoted to operating rooms. There are 62 beds in the hospital. The institution meets all the rigorous requirements of the American College of Surgeons and is rated as a Class A hospital.

There are approximately 5,500 employes of the railroad served by the hospital department. During its first year about 10 per cent of the employes entered the hospital for treatment, and at present about 25 per cent are availing themselves annually of its facilities as a hospital and for diagnoses and treatments. These figures do not include the out-patient department at Savannah and other points, where the number treated brings the annual average well above 50 per cent.

Photograph and type cannot picture or describe that which makes this hospital unique: the atmosphere of cheer and cordiality, the spirit of service, which makes each patient there feel that the hospital is the "other home," that he not only is receiving the benefits of skill and science, but is surrounded by the personal interest of real friends.

Craig Barrow, M.D., is chief surgeon, and Miss Lucile Williams is superintendent of the hospital.

THE STRENUOUS LIFE.—I wish to preach, not the doctrine of ignoble ease, but the doctrine of the strenuous life, the life of toil and effort, of labor and strife; to preach that highest form of success which comes, not to the man who desires more peace, but to the man who does not shrink at danger, from hardships or from bitter toil, and who out of these wins the splendid ultimate triumph.—*Theodore Roosevelt.*

THE JOURNALOF THE
MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

MARCH, 1940

WELCOME TO SAVANNAH

Once again it is the privilege of the Georgia Medical Society to extend to every member of the Medical Association of Georgia a most cordial invitation to come to Savannah for the State meeting, April 23-26. We also urge that every member of the Woman's Auxiliary be present.

Savannah is a convention city, and every year opens her doors to many organizations. However, the city fathers and the inhabitants generally join with the members of the medical profession in expressing a keen interest and friendly feeling toward a gathering of doctors and their families. The resources of the city will be at your command. Golf, fishing and swimming will be available for those who wish to partake of these sports. Fort Pulaski, the Pirate House, the Weed House, the Telfair Academy and other points of interest will attract those in a historic frame of mind. For those in a lighter mood there are excellent places where one may wine and dine.

The members of the Georgia Medical Society are anticipating a large attendance and are planning an enjoyable occasion. We urge you to come. Be sure to bring the wife, also the children. We promise a splendid meeting and a good time for all.

JULIAN K. QUATTLEBAUM, M.D.

President,

Georgia Medical Society.

**THE ANNUAL SESSION OF THE
ASSOCIATION AND ITS
WOMAN'S AUXILIARY**

Almost two thousand Georgia physicians are members of the Medical Association of Georgia. Most of them are looking forward to the time when the Association meets, when they can meet old friends and make new acquaintances. Many of them will be accompanied to Savannah by their wives, for they too have an active organization.

In addition many distinguished visitors will attend the meetings. All will learn many things, and all will enjoy the beauty and hospitality of our host city.

On other pages of this Journal are the programs of the Association and its Woman's Auxiliary. Read them carefully and then make your plans to be in Savannah April 23-26, which should include reservations for accommodations.

THE GEORGIA MEDICAL SOCIETY

One cannot read the pages of this Journal without feeling some of the fine things builded by Georgia Medicine. And most of them began when white men came to Savannah in 1733. True, the Indians had their medicine, but when white settlers gained possession of lands and trekked toward the West in search of more of the world's goods, Indian healing was replaced with medical procedures directed along scientific lines.

Much progress was made by the new State of Georgia during its first seventy-five years, but medical education, medical practice, medical organization and extension of public health measures did not crystallize until the beginning of the nineteenth century. Following examples set by physicians of Massachusetts, New York, Pennsylvania and South Carolina, eighteen Savannah physicians met in 1804 and organized the Georgia Medical Society.

When the Georgia Medical Society was organized one hundred thirty-six years ago, the State was overrun with smallpox, yellow fever, cholera and other infectious diseases. Savannah's five thousand citizens were dying by the score, and her port had been closed to the commerce of the world. Public health measures were meager, but something had to be done. City officials appealed to the newly-formed medical society for aid. The Society recommended that the city government appropriate \$200,000 for the purpose of buying lands in and adjacent to the city, on which were rice fields and much water, so that a drainage program could be instituted. This was perhaps the first major public health program attempted in this country.

Prime objectives of Georgia's first medical societies—the Georgia Medical Society, Savannah (1804), and the Medical Society of Augusta, Augusta (1822)—were: to promote medical education and combat quackery. That they succeeded in their efforts is a matter of record. The present University of Georgia School of Medicine, Augusta, was founded in 1828. Public support was given the new medical college, and in 1833 funds for the erection of a new college building were augmented by a gift from the City of Augusta and an appropriation by the State Legislature. In 1838 the Savannah Medical College, Savannah, was chartered, but it did not function until 1853. Differences of opinion among the faculty led to the organization, in 1855, of the Oglethorpe Medical College, Savannah. Activities of these colleges were suspended during the War Between the States, but in 1865 the Savannah Medical College reopened and continued its work until 1881, when it closed. Each of these colleges sponsored and published medical journals.

Many of the facts of early Georgia Medicine are now available and reflect medical progress throughout the State. This number of *THE JOURNAL* is another effort to amplify these data. But whatever the accomplishments of Georgia Medicine have been, physicians of other sections of Georgia owe much to their colleagues in Savannah. This *JOURNAL*, therefore, is dedicated to the oldest medical society in the State—the Georgia Medical Society—whose members of today hold high the traditions of their distinguished forbears.

MEDICAL HISTORY: FACTS, PROBABILITIES AND POSSIBILITIES

This *JOURNAL* contains considerable medical history. It has been edited with regard for accuracy, but two things stand out which might mislead readers. They are:

When was the American Medical Association organized? On May 5, 1846, representatives from all of the medical colleges of this country and delegates from the medical societies of each state assembled in New York City for the purpose of furthering the interests of medical education. One year

later, on May 5, 1847, this group met in Philadelphia, when the organization took the name of the American Medical Association.

Do you spell Wymberley with y or an i, and is it ly or ley? Various writers spell this old Savannah name in different ways. The various histories of Georgia spell it differently. It is probable that *Wymberley* is the correct way to spell it, but it is possible to spell it several different ways. In the articles here published it is spelled differently by the various authors, but it will sound the same to all readers, and it is quite possible it will mean the same to most of them.

THE GEORGIA MEDICAL SOCIETY

When General Oglethorpe and his band of Colonists landed on the bluff of the Savannah River in February 1733, they had as their physician, George Noble Jones. Dr. Jones was not only a physician, but was a surveyor, a military leader, and later became the Chief Justice of the Colony. The duties of all these offices he discharged with distinction, and left a record worthy of emulation. King George II made him the grantee of a tract of land, upon which today stands Wormsloe, a beautiful estate which has remained in possession of his descendants since his death nearly two hundred years ago.

His son, Noble Wimberly Jones, was also a physician, and became a statesman and legislator. Due to the fervor of his patriotism, he was called "The Morning Star of Liberty." He was one of the incorporators of the Georgia Medical Society, and left an imperishable record of service to the Colony and State.

The pressing need of a medical organization was realized by physicians very early in the history of Savannah, therefore a petition was filed for incorporation of the Georgia Medical Society. Noble Wimberly Jones, as President, with seventeen other practitioners, filed the petition which was approved by the Legislature and assented to by Governor John Milledge on Dec. 12, 1804. In this petition it was stated that their purpose was "lessening

the fatality induced by climate and incidental causes," which has been the guiding principle of the Society during the 136 years of its existence. This society is the oldest in Georgia, and the sixth oldest in the United States.

The members of the newly-established society had long been concerned by the prevalence of malaria, yellow fever, and other communicable diseases in the community. The population of Savannah in 1817 was 4,000, one-half of whom were colored; but by unanimous effort and a long and hard fight by the physicians, the sum of \$200,000 was paid to planters in promoting "dry culture" in order to destroy mosquitoes and prevent disease. The results were phenomenal, and established for the Georgia Medical Society the distinction of having first brought about the abatement of disease by drainage of rice lands.

The Society was again called upon to render conspicuous service in 1820, when an epidemic of yellow fever occurred. In a short time at least five physicians of the city succumbed to the disease. But this epidemic was only a foretaste of what was to occur in 1854 and 1876, when panic, despair, and death reigned, and heroism was commonplace. In this connection the services of Dr. R. J. Nunn deserve special mention. Soon after his graduation in 1854 he rendered valuable service in the yellow fever epidemic. He worked ceaselessly, and served a panic-stricken population, two-thirds of whom fled the city, leaving five thousand sick and dying. Thirteen physicians and medical students lost their lives. Dr. Nunn was spared, but his health was greatly impaired. The following year he was awarded a gold medal to memorialize the services he rendered the people of Norfolk during a similar epidemic.

There have been many distinguished members of the Society, but no sketch of Savannah Medicine should omit the name of Dr. Richard D. Arnold, physician, mayor for six terms, including the period of the War Between the States; scholar, writer, patron of art, literature and education. His contributions to culture and his public

spirit make him easily the most versatile member that the Society has ever had. He was one of the founders of the American Medical Association, was on the committee that wrote its code of ethics, its first Corresponding Secretary, and later its Vice-President. He was also President of the Medical Association of Georgia.

Two medical colleges, the Savannah and the Oglethorpe, were located in Savannah about the middle of the last century, and while they undoubtedly were centers of medical progress, the Georgia Medical Society was then, and is now, the focus of medical affairs in Savannah. Its members have served in every war of this country since the government was founded, and have shown themselves worthy members of a renowned society.

WILLIAM H. MYERS, M.D.

HISTORIC SAVANNAH

Beautiful, hospitable Savannah, where the Association meets this year, not only furnished the beginning of the history of Georgia from a political and social point of view, but also inaugurated the history of medicine in the Empire State of the South. Arriving with General James Oglethorpe, founder of the Colony of Georgia, in 1733, was Noble Jones, surveyor and physician. Dr. Jones settled with his family at Wormsloe, a tract of land which was a grant from King George II of England, and which has been held continuously by his descendants for more than two hundred years. Noble Wymberly Jones, son of Noble Jones, was one of the leading practitioners of early Savannah, and was one of the incorporators and the first president of the Georgia Medical Society. Other prominent pioneer physicians of the city were William Richard Waring, Richard D. Arnold, John LeConte, R. J. Nunn, Thomas J. Charlton II and Raymond B. Harris. Two of Dr. Waring's great-grandsons, T. P. Waring and A. J. Waring, are practicing in Savannah at the present time.

Members of the medical profession of that period not only practiced medicine, but also fought Indians and Britishers, held public office and rendered other services of

value to the community. From his own letters which have been published through the courtesy of his granddaughter, Miss Margaret Cosens, of Savannah, we learn that during the yellow fever epidemic of 1854, Dr. Richard D. Arnold slept approximately only four hours out of twenty-four, and that he was in his buggy from six o'clock in the morning until twelve and one o'clock at night. It also is recorded that he "booked" as much as \$2,000 in one month for services rendered. Dr. Arnold was a charter member of both the American Medical Association and the Medical Association of Georgia.

John LeConte was one of the most distinguished scientists Georgia has produced. He practiced medicine successfully in Savannah from 1842 to 1846, but it was in the field of physics that he gained his principal fame. He lectured on chemistry and was a professor in the College of Physicians and Surgeons, New York, and later went to the University of California as Professor of Physics and President of the University. Dr. Nunn also furnished great aid in combating the yellow fever epidemic in 1876, and is said to have been the first physician in Savannah to use a microscope. Five generations of Thomas J. Charltons have practiced medicine in Savannah, all men of the highest social and professional attainments.

Savannah Medical College

The corner-stone of the Savannah Medical College, second medical school to be organized in Georgia, was laid January 17, 1853, under the direction of Dr. R. D. Arnold, who became Professor of the Theory and Practice of Medicine. The other members of the first faculty were: P. M. Kollock, M.D., Professor of Obstetrics and Diseases of Women; C. W. West, M.D., Dean and Professor of Medical Chemistry; H. L. Byrd, M.D., Professor of Materia Medica and Therapeutics; E. H. Martin, M.D., Professor of Physiology; J. G. Howard, M.D., Professor of Anatomy, and J. B. Read, M.D., Professor of Pathological Anatomy and Demonstrator of Anatomy. It is strange to notice no mention of surgery in the list.

The faculty gave \$40,000 for the construction of a commodious building, containing a lecture room, museum, library, laboratory and dissecting room—accommodations for the instruction of 300 students. The building was located on the northwest corner of Taylor and Habersham streets, the present site of St. Joseph's Hospital. The Savannah Poor House and the Marine Hospital afforded opportunity for demonstrating clinical medicine. Later the Savannah Hospital was used for this purpose. The faculty was composed of men of liberal education and wide experience in private and public practice. The requirements for graduation were high, and the institution stood on a par with any other medical college in the South at that time. The candidate for a degree must have studied medicine under a respectable practitioner for three years, and must have attended two full courses of instruction, one of which must have been in this College. A thesis on a medical subject must be presented in the student's own handwriting.

The following fees were required:

Matriculation (paid only once).....	\$ 5.00
Full course of lectures.....	105.00
Fee for Demonstrator of Anatomy.....	10.00
Fee for diploma.....	30.00

The college was closed during the War Between the States. After the War, U. S. medical officers carried off the fine apparatus, a valuable collection of minerals, the engravings and paintings used for illustration, anatomic preparations and pathologic specimens. A member of the faculty said that \$10,000 would not cover these losses. In November, 1866, the school again opened and continued until 1871, when the Trustees sold the building. For ten years lectures were conducted in the Savannah Hospital. The institution closed in 1881, after an honorable and useful career.*

Georgia Medical Society

The Georgia Medical Society, incorporated Dec. 14, 1804, is the oldest medical society in the State of Georgia, and the second oldest city medical society in the United States. As stated in its petition for a charter, it was organized for the purpose of lessening the fatality induced by climate and

*Oglethorpe Medical College, Savannah, was organized in 1855 but its period of activity was brief.

incidental causes, and to improve the science of medicine. The original members were Noble Wymberly Jones, President; John Irvine, Vice-President; John Grimes, Secretary; Lemuel Kollock, Treasurer; John Cummings, James Ewell, Moses Sheftall, J. E. White, William Parker, Thomas Schley, George Jones, G. V. Proctor, H. Bourquin, Thomas Young, Jr., Peter Ward, W. J. Glenn and N. S. Bayard. These men were distinguished in the practice of medicine, culture and education. Many had fought in the Revolutionary War, and their lives have served as an inspiration to the members of the Georgia Medical Society all through the years. The pride that the Savannah medical profession feels in its society has kept the name of Georgia Medical Society instead of calling it after the county (Chatham) in which Savannah is located.

One of the first acts of the Society was to take a definite stand against the wet culture of rice within a mile radius of the city. Rice was then being cultivated almost up to the doors of the dwellings. The doctors believed that the stagnant water used in the cultivation of rice did much to cause the fevers and agues which were prevalent. In 1817 the landowners agreed for \$40.00 per acre to bind their lands forever from being cultivated in wet culture. At that time the City of Savannah had a population of about 6,000 people, and paid \$200,000 to carry out this project.

During the yellow fever epidemic of 1820, Savannah physicians rendered another signal service to the city in total disregard of their own safety, and suffered a loss of at least five members. The profession was called upon to fight another terrible yellow fever epidemic in 1854, when two-thirds of the population left the city. Five thousand cases were reported, with 1,000 deaths.

Lack of space prevents telling many other interesting and important facts connected with the history of the distinguished Georgia Medical Society. Twelve members of the organization have served as president of the Medical Association of Georgia: R. D. Arnold, 1851; W. M. Charters; P. M.

Kollock, 1853; J. G. Thomas; R. J. Nunn, 1885; J. C. LeHardy, 1886; W. H. Elliott, 1893; H. H. Martin, 1906; Ralston Lattimore, 1913; J. W. Daniel, 1925; Wm. R. Dancy, 1930, and Wm. H. Myers, the present incumbent, 1939. No sketch of the history of Savannah Medicine would be complete without reference to the late health officer of the city, Dr. V. H. Bassett, who might be characterized as the ace of historians of the early medicine in Georgia. Dr. Bassett was indeed an indefatigable worker in this field. His unbounded energy and brilliant talents brought to light many facts concerned with the subject which otherwise might yet repose in darkness. He not only made important discoveries, but possessed the initiative and ability to record them in most interesting papers. No group in the Medical Association of Georgia will miss Dr. Bassett more than the Committee on Medical History, of which he was an indispensable member.

FRANK K. BOLAND, M.D.

UNUSUAL SKIN INFECTIONS FROM FUNGI

The finding and identification of the causative organism of two rather unusual skin infections, both within a comparatively short time, should serve to increase the awareness among the medical profession of the possibility of such diseases, James L. Wade, M.D., Parkersburg, W. Va., and A. R. K. Matthews, M.D., Rockford, Ill., declare in *The Journal of the American Medical Association* for February 3.

The two men state that they have been unable to find any other reported examples of infection with the type of fungus they identified. They previously had reported the case of a woman whose breast was infected with *Sporothrix*, an organism resembling the yeast fungi.

In their present report the two doctors describe an infection which occurred on the cheek of a young man who had been tending livestock. Shortly before the two lesions occurred on his cheek he had noticed that some of the sheep under his care had "growths" on their noses. The fungus causing the infection is known as *Mucor*, an organism that forms grayish-white growths, usually called "whiskers" on cold storage meat. Treatment with iodides (compounds of iodine) by mouth and injection into the veins caused the lesions to disappear.

EFFECT OF FLYING ON THE EAR.—Flying has no significant effect on the external ear, but the middle and inner ear are the source of a great amount of difficulty. Pilots suffer more frequently from occupational disturbances of this organ than from all other occupational diseases combined. Conditions of flight which affect the ear are changes of atmospheric pressure during ascent and descent, noise, and possibly vibration. The former is increasing in importance as a result of the increased climbing ability of modern aircraft; the two latter conditions are decreasing in importance as a result of recent advances in aircraft design.—*Armstrong*.



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Secretary-Treasurer and
Editor of The Journal



John W. Simmons, M.D., Brunswick,
Parliamentarian

The officers of the Medical Association of Georgia urge its members to attend the Ninety-First Annual Session at Hotel DeSoto, Savannah, April 23, 24, 25, 26, 1940.

The House of Delegates will convene at 2:00 P. M., Eastern Standard Time, Tuesday, April 23. The scientific session will open Wednesday, April 24, at 8:30 A. M.



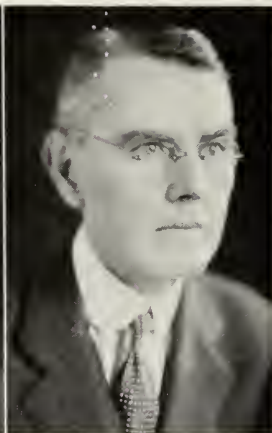
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Delegate to the A.M.A.



Olin H. Weaver, M.D.,
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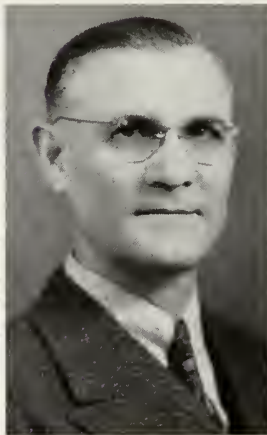
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Alternate Delegate to the A.M.A.
and Vice-Councilor, Fifth
District



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Arlington
Alternate Delegate to the A.M.A.



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Councilor, Second District



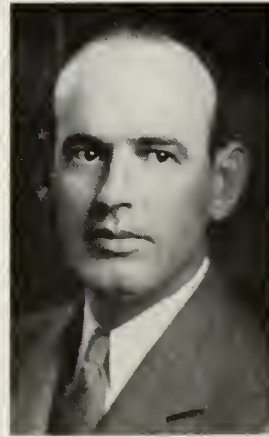
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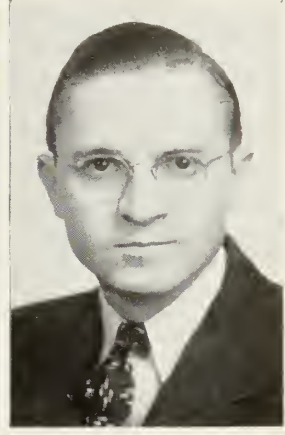
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PROGRAM MEDICAL ASSOCIATION OF GEORGIA

Ninety-First Annual Session

Savannah

April 23, 24, 25, 26, 1940

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Alternate, Marion C. Pruitt..... Atlanta
Olin H. Weaver (1940-41)..... Macon
Alternate, C. K. Sharp..... Arlington

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9. J. K. Burns (1941).....Gainesville

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Cleveland Thompson (1944).....Millen

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A. D. Little (1941).....Thomasville

R. H. Oppenheimer (1942).....Atlanta

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C. C. Aven, Chairman (1949).....Atlanta

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T. C. Davison (1949).....Atlanta

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Jack C. Norris.....	Atlanta
Ernest Corn.....	Macon
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Lovick W. Pierce.....	Waycross
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C. F. Holton.....	Savannah
Ralph H. Chauncy.....	Augusta

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Social Security Act*

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R. V. Martin.....	Savannah
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Robert Drane.....	Savannah
Everett L. Bishop.....	Atlanta
Lee Howard.....	Savannah
M. T. Benson, Sr.....	Atlanta
Helen Bellhouse.....	Thomasville
R. N. Johnson.....	Rome
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B. E. Collins.....	Waycross
Ernest Wahl.....	Thomasville

Study of Maternal Mortality and Infant Deaths

H. F. Sharpley, Jr., Chairman.....	Savannah
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E. N. Gleaton.....	Savannah

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W. W. Jarrell.....	Thomasville

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F. B. Schley.....	Columbus

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H. J. Copeland.....	Griffin
Emory R. Park.....	LaGrange

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Lee Bivings.....	Atlanta

Sixth District

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O. C. Woods.....	Milledgeville

Seventh District

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Tenth District

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Public Health, Atlanta.
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Fraternal Delegate to the Georgia Pharmaceutical
Association

Otto W. Schwalb Savannah
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tingham, Augusta; T. C. Davison, Atlanta.
North Carolina: Clarence L. Ayers, Toccoa; C. M.
Sharp, Alto.
South Carolina: W. F. Reavis, Waycross; Grady N.
Coker, Canton; A. J. Waring, Savannah.
Tennessee: D. L. Wood, Dalton; Lester Harbin, Rome.

*Fraternal Delegate from the State Medical Association
of Texas*

Charles M. McCollum, Fort Worth, Texas.

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Wm. R. Dancy, Savannah, Chairman.
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On Miscellaneous Business*

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R. C. McGahee, Augusta.

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Fourth District—J. A. Corry, Barnesville, Sept. 1, 1943.
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Pharmaceutical Association*

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W. T. Edwards, Augusta, Sept. 1, 1941.

Georgia Dental Association

J. G. Williams, D.D.S., Atlanta, Sept. 1, 1940.
Paul McGee, D.D.S., Waycross, Sept. 1, 1940.

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Third Wednesdays—March and July.

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No set dates.

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December.

Seventh District

President—J. L. Garrard, Rome.
Secretary—M. M. Hagood, Marietta.
First Wednesday in April and last Wednesday in Sep-
tember.

Eighth District

President—Sage Harper, Ambrose.
Secretary—G. T. Crozier, Valdosta.
Second Tuesdays in April and October.

Ninth District

President—Marcus Mashburn, Cumming.
Secretary—Pratt Cheek, Gainesville.
Third Tuesdays in March and September.

Tenth District

President—R. C. McGahee, Augusta.
Secretary—J. Z. Daniel, Augusta.
Second Wednesdays in February and August.

DELEGATES TO THE 1940 SESSION*

<i>Counties</i>	<i>Names and Addresses</i>
Appling.....	E. J. Overstreet, Baxley
Baldwin.....	J. R. S. Mays, Milledgeville
Bartow.....	A. L. Horton, Cartersville
Ben Hill.....	W. D. Wilcox, Fitzgerald
Bibb.....	R. W. Richardson, Macon
	Alvin Siegel, Macon
Blue Ridge.....	E. W. Watkins, Ellijay
Brooks.....	J. R. McMichael, Quitman
Bulloch-Candler-Evans.....	R. L. Cone, Statesboro
Burke.....	J. M. Byne, Jr., Waynesboro

*This list includes the names of all delegates reported to date.

Butts.....	B. F. Akin, Jackson	Ocmulgee: (Bleckley-Dodge-Pulaski).....	A. R. Bush, Hawkinsville
Carroll.....	J. E. Powell, Villa Rica	Polk.....	P. O. Chaudron, Cedartown
Chatham.....	C. F. Holton, Savannah	Rabun.....	J. A. Green, Clayton
	H. J. Morrison, Savannah	Randolph.....	Loren Gary, Jr., Shellman
Chattooga.....	C. E. Magoun, Trion	Richmond.....	R. C. McGahee, Augusta
Cherokee.....	C. J. Roper, Jasper		J. H. Sherman, Augusta
Clarke-Madison-Oconee..	W. D. Gholston, Danielsville	Rockdale.....	H. E. Griggs, Conyers
Clayton-Fayette.....	Y. R. Coleman, Jonesboro	Screven.....	
Cobb.....	G. O. Allen, Marietta	Spalding.....	T. I. Hawkins, Griffin
Coffee.....	Sage Harper, Ambrose	Stephens.....	W. B. Schaefer, Toccoa
Colquitt.....	R. M. Joiner, Moultrie	Stewart-Webster.....	A. R. Sims, Richland
Coweta.....	Geo. W. Hammond, Newnan	Sumter.....	Herschel A. Smith, Americus
Crisp.....	E. S. Armstrong, Cordele	Tattnall.....	A. C. Branch, Glennville
Decatur-Seminole.....	R. F. Wheat, Bainbridge	Taylor.....	F. H. Sams, Reynolds
DeKalb.....	H. H. Allen, Decatur	Telfair.....	F. R. Mann, McRae
Dooly.....	E. B. Davis, Byromville	Terrell.....	J. C. Tidmore, Dawson
Dougherty.....	A. H. Hilsman, Albany	Thomas.....	E. F. Wahl, Thomasville
Douglas.....	R. E. Hamilton, Douglasville	Tift.....	C. S. Pittman, Tifton
Elbert.....	D. N. Thompson, Elberton	Toombs.....	
Emanuel.....	R. G. Brown, Graymont	Tri Society: (Calhoun-Early-Miller).....	C. K. Sharp, Arlington
Floyd.....	Lester Harbin, Rome	Tri Society: (Liberty, Long, McIntosh).....	O. D. Middleton, Ludowici
Forsyth.....	W. E. Lipscomb, Cumming	Troup.....	W. P. Phillips, LaGrange
Franklin.....	S. D. Brown, Royston	Turner.....	J. H. Baxter, Ashburn
Fulton.....	Chas. E. Rushin, Atlanta	Upson.....	F. M. Woodall, Thomaston
	C. C. Aven, Atlanta	Walker-Catoosa-Dade.....	B. C. Hale, Rossville
	B. Russell Burke, Atlanta	Walton.....	T. R. Aycock, Monroe
	W. S. Dorrough, Atlanta	Ware.....	W. F. Reavis, Waycross
	D. Henry Poer, Atlanta	Warren.....	H. B. Cason, Warrenton
	Howard Hailey, Atlanta	Washington.....	J. R. Burdett, Tennille
	H. C. Sauls, Atlanta	Wayne.....	J. A. Leaphart, Jesup
	S. T. Brown, Atlanta	Whitfield.....	Trammell Starr, Dalton
	W. E. Person, Atlanta	Wilcox.....	J. D. Owens, Rochelle
Glynn.....	L. C. Mitchell, Brunswick	Walker.....	F. H. Simonton, Chickamauga
Gordon.....	W. D. Hall, Calhoun	Worth.....	
Grady.....	J. V. Rogers, Cairo		
Greene.....	Goodwin Gheesling, Greensboro		
Gwinnett.....			
Habersham.....	W. H. Garrison, Clarksville		
Hall.....			
Hancock.....	C. S. Jernigan, Sparta		
Haralson.....	C. W. Downey, Bremen		
Hart.....	W. E. McCurry, Hartwell		
Henry.....	R. V. Brandon, McDonough		
Houston-Peach.....			
Jackson-Barrow.....	W. T. Randolph, Winder		
Jasper.....	E. M. Lancaster, Shady Dale		
Jefferson.....	S. T. R. Revell, Louisville		
Jenkins.....	A. P. Mulkey, Millen		
Lamar.....	J. A. Corry, Barnesville		
Laurens.....	E. B. Claxton, Dublin		
South Georgia Medical Society: (Berrien, Clinch, Cook, Echols, Lanier and Lowndes).....	Frank Bird, Valdosta		
Macon.....			
McDuffie.....	B. F. Riley, Jr., Thomson		
Meriwether.....	T. W. Jackson, Manchester		
Mitchell.....	M. W. Williams, Camilla		
Monroe.....	Geo. H. Alexander, Forsyth		
Montgomery.....	H. C. Sharpe, Alston		
Morgan.....	J. H. Nicholson, Madison		
Muscogee.....	W. F. Jenkins, Columbus		
Newton.....	W. D. Travis, Covington		

ANNOUNCEMENTS

Meetings will be held in the Dining Room, Hotel DeSoto.

Be sure to go to the Registration Desk immediately after your arrival, present your 1940 membership card, register and procure a badge.

Discussion of papers is open to all members and guests of the Association; it is not limited to those named on the program.

On arising to discuss a paper the speaker will please announce his name and address clearly for the benefit of the Association and the stenographer.

Meetings will be called to order at the hour fixed on the program. It is especially desired that the members be prompt in their attendance.

All manuscript should be typewritten, double spaced, and on one side of the paper only. Papers must be handed to the Secretary immediately after being read.

IMPORTANT NOTICE!

Delegates must present written credentials to the Committee on Credentials from the House of Delegates to secure delegates' badges.

Members may not take part in the proceedings until they have registered and procured official badges.

PUBLIC MEETINGS

Eastern Standard Time

Dining Room, Hotel DeSoto

WEDNESDAY, APRIL 24, 8:30 A. M.

Dining Room, Hotel DeSoto

OPENING MEETING

WEDNESDAY, APRIL 24, 8:00 P. M.

Presentation of the President's Key to William H. Myers, Savannah, by Allen H. Bunce, Atlanta.

THURSDAY, APRIL 25, 12:00 NOON

Dining Room, Hotel DeSoto

PRESIDENT'S ADDRESS

Medicine: Yesterday and Tomorrow

William Herman Myers, Savannah

The President's Address will be at an open session to which the public and visitors are invited.

MEMORIAL EXERCISES

T. C. Davison, Atlanta, Chairman

Committee on Necrology

R. S. Leadingham, Atlanta

ENTERTAINMENTS

TUESDAY, APRIL 23, 9:00-11:00 P. M.

Dr. and Mrs. Julian K. Quattlebaum will be at home, 203 East 45th Street, Savannah, in honor of the officers of the Medical Association of Georgia, and the Woman's Auxiliary.

WEDNESDAY, APRIL 24, 1:00 P. M.

Annual luncheon of the Georgia Eye, Ear, Nose and Throat Society, Hotel DeSoto.

WEDNESDAY, APRIL 24, 6:30 P. M.

Annual dinner of the alumni of Emory University School of Medicine, Hotel DeSoto.

Annual dinner of the alumni of the University of Georgia School of Medicine, Hotel DeSoto.

THURSDAY, APRIL 25, 1:00 P. M.

Annual luncheon of the Georgia Pediatric Society, Hotel DeSoto.

Annual luncheon of the Georgia Radiological Society, Hotel DeSoto.

Annual luncheon of the Georgia Urological Association, Hotel DeSoto.

THURSDAY, APRIL 25, 7:30 P. M.

Hotel DeSoto

Annual Banquet, 7:30-10:00 P. M.

Toastmaster—Julian K. Quattlebaum, Savannah.
Dance—10:00 to 1:00.

American Medicine and the National Government

Morris Fishbein, Chicago, Editor

The Journal of the American Medical Association.

Introduction by J. C. Metts, Savannah.

MEETINGS OF THE HOUSE OF DELEGATES

Dining Room—Hotel DeSoto

TUESDAY, APRIL 23, 2:00 P. M.

Eastern Standard Time

First meeting of the House of Delegates.

1. Call to order by the President.

2. Roll call.

3. Appointment of Reference Committees.

4. Reports of officers:

President.

President-Elect.

Vice-Presidents.

Parliamentarian.

Secretary-Treasurer: Financial report.

Reports of Delegates to the A.M.A.

5. Reports of committees:

Scientific Work.

Public Policy and Legislation.

Arrangements.

Medical Defense.

Hospitals.

Necrology.

Cancer Commission.

History.

Abner Wellborn Calhoun Lectureship.

Awards.

Advisory—State Board of Health.

Advisory—Woman's Auxiliary.

Medical Economics.

Post-Graduate Study.

Orthopedics—Advisory, State Department of Public Welfare.

Ophthalmology—Advisory, State Department of Public Welfare.

Syphilis.

Industrial Relations.

Tuberculosis.

Scientific Exhibit.

Maternal Mortality and Infant Deaths.

Special Committees.

6. Reports of Fraternal Delegates.

7. Unfinished Business.

8. New Business.

TUESDAY, APRIL 23, 8:00 P. M.

Eastern Standard Time

Dining Room—Hotel DeSoto

Second Meeting of the House of Delegates.

1. Call to order by the President.

2. Reading of minutes.

3. Study of Maternal Mortality—Chairman of Committee.

4. Report of President of Woman's Auxiliary.

5. Reports of committees continued.

6. Unfinished business.

7. New business.

FRIDAY, APRIL 26, 8:00 A. M.

Eastern Standard Time

Council Room—Hotel DeSoto

Third Meeting of the House of Delegates.

1. Call to order by the President.

2. Reading of minutes.
3. Reports of committees.
4. Unfinished business.
5. New business.

OFFICIAL REPORTER

Miss Winifred H. McLean.....Gastonia, N. C.

MEETING OF THE COUNCIL

Council Room—Hotel DeSoto

The first meeting of the Council will be held in the Council Room, Hotel DeSoto, Tuesday, April 23, 6:30 P. M. Each Councilor will render a written report of conditions in each county of his district. Other meetings of the Council will be held on the call of the chairman.

WEDNESDAY, APRIL 24, 8:30 A. M.

Eastern Standard Time

Dining Room—Hotel DeSoto
Savannah

SCIENTIFIC PROGRAM

The papers for each meeting must be read as scheduled on the program.

Call to order by the President, William H. Myers, Savannah.

Invocation

Rev. Ernest Risley.....Savannah
Pastor, St. John's Episcopal Church

Addresses of Welcome

Julian K. Quattlebaum.....Savannah
President, Georgia Medical Society

Hon. Thomas Gamble.....Savannah
Mayor of Savannah

Response to Addresses of Welcome

Charles H. Richardson.....Macon
Past President of the Association

SCIENTIFIC PROGRAM

1. Pentothal Sodium—Oxygen Anesthesia from the Viewpoint of the General Surgeon.

T. C. Davison, Atlanta.

Fred Rudder, Atlanta.

To lead the discussion:

R. H. Chaney, Augusta.

W. A. Selman, Atlanta.

2. SYMPOSIUM ON THE PROBLEMS OF MEDICAL CARE IN GEORGIA

(a) Georgia's Medical Problems of 1940.

Cyrus W. Strickler, Atlanta.

(b) Public Health Problems and Their Relation to Medical Care in Georgia.

T. F. Abercrombie, Atlanta.

(c) Distribution of Physicians and Hospitals in Georgia.

C. W. Roberts, Atlanta.

A. A. Weinstein, Atlanta.

(d) Cooperative Planning in the Building and Operation of Community Hospitals in Georgia.

I. Ware County Hospital.

B. H. Minchew, Waycross.

H. Bulloch County Hospital.

A. J. Mooney, Statesboro.

III. City-County Hospital.

Enoch Callaway, LaGrange.

IV. Stephens County Hospital.

C. L. Ayers, Toccoa.

(e) Suggestions for the Improvement of Medical Care in Georgia.

Jas. E. Paullin, Atlanta.

To lead the discussion:

Cleveland Thompson, Millen.

J. C. Patterson, Cuthbert.

Grady N. Coker, Canton.

WEDNESDAY, APRIL 24, 12:00 NOON

ABNER WELLBORN CALHOUN LECTURE

Newer Phases of the Diabetic Problem

Rollin T. Woodyatt, Chicago

Clinical Professor of Medicine, Rush Medical College, University of Chicago

Introduction by James E. Paullin, Atlanta.

WEDNESDAY, APRIL 24, 2:00 P. M.

Eastern Standard Time

Dining Room—Hotel DeSoto

1. Pancreatitis—Report of Cases.

Guy J. Dillard, Columbus.

To lead the discussion:

Kenneth McCullough, Waycross.

A. H. Hilsman, Albany.

2. Sulfanilamide and Its Derivatives.

Eustace A. Allen, Atlanta.

To lead the discussion:

J. C. Metts, Savannah.

Wm. W. Anderson, Atlanta.

3. Functional Heart Disorders.

J. A. Redfearn, Albany.

To lead the discussion:

H. C. Atkinson, Macon.

Jno. W. Brittingham, Augusta.

4. The Smith-Petersen Plan of Reconstructing Certain Types of Painful and Roughened Hips—Relief of Pain and Increased Joint Motion.

Calvin Sandison, Atlanta.

Lawson Thornton, Atlanta.

To lead the discussion:

H. M. Michel, Augusta.

W. A. Newman, Macon.

H. T. Compton, Savannah.

5. Cancer of the Prostate.

Montague L. Boyd, Atlanta.

To lead the discussion:

J. Zeb McDaniel, Augusta.

W. R. Golsan, Macon.

Rudolph Bell, Thomasville.

Robert Drane, Savannah.

WEDNESDAY, APRIL 24, 8:00 P. M.

Eastern Standard Time

Dining Room—Hotel DeSoto

Presentation of the President's Key to the President.
William H. Myers, Savannah, by Allen H. Bunce, Atlanta.

Thyroid Disease

Frank H. Lahey, Boston

Introduction by Jno. E. Walker, Columbus.

Progress in Knowledge and Control of Cancer

Kenneth M. Lynch, Charleston, S. C.

Vice-Dean and Professor of Pathology, Medical College of the State of South Carolina; Chairman, South Carolina Cancer Commission, and Member of the Board of Directors of the American Society for the Control of Cancer.

Introduction by Jas. L. Campbell, Atlanta.

The Function of the Industrial Physician

Lloyd Noland, Birmingham, Ala.

Chief Surgeon, Tennessee Coal and Iron Corporation Hospital, Birmingham

Introduction by C. F. Holton, Savannah.

THURSDAY, APRIL 25, 9:00 A. M.

Eastern Standard Time

Dining Room—Hotel DeSoto

1. Treatment of Pneumonia in Adults with Sulfapyridine.

J. Fletcher Hanson, Macon.

To lead the discussion:

Wm. P. Harbin, Jr., Rome.

T. J. Charlton, Savannah.

2. Evaluation of the Diagnosis and Treatment of Varicose Veins.

Chas. E. Rushin, Atlanta.

To lead the discussion:

C. K. Wall, Thomasville.

R. C. Franklin, Swainsboro.

3. Hypothyroidism and Myxedema.

M. V. B. Teem, Marietta.

To lead the discussion:

Jno. E. Walker, Columbus.

H. C. Sauls, Atlanta.

4. Surgical Cure of Hyperparathyroidism—Report of Case.

Bruce Threatte, Columbus.

W. F. Jenkins, Columbus.

Ragsdale Hewitt, Columbus.

To lead the discussion:

Jas. J. Clark, Atlanta.

B. H. Clifton, Atlanta.

5. Desirable and Undesirable Results Following Thyroid Surgery.

D. Henry Poer, Atlanta.

To lead the discussion:

J. K. Quattlebaum, Savannah.

Ernest F. Wahl, Thomasville.

6. Endocrinologic Study and Treatment of Patients with Menometrorrhagia.

Robert B. Greenblatt, Augusta.

To lead the discussion:

Duncan D. Walker, Macon.

Allan G. Thurmond, Augusta.

THURSDAY, APRIL 25, 12:00 NOON

Eastern Standard Time

Dining Room—Hotel DeSoto

PRESIDENT'S ADDRESS

Medicine: Yesterday and Tomorrow

William Herman Myers

Savannah

MEMORIAL EXERCISES

T. C. Davison, Atlanta, Chairman

Committee on Necrology

R. S. Leadingham, Atlanta.

THURSDAY, APRIL 25, 2:00 P. M.

Eastern Standard Time

Dining Room—Hotel DeSoto

1. An Analysis of Five Hundred Case Reports of Incomplete Abortion.

Chas. McL. Mulherin, Augusta.

To lead the discussion:

Jos. Akerman, Augusta.

Edgar H. Greene, Atlanta.

2. SYMPOSIUM ON OBSTETRICS

(a) Georgia's Obstetric Problems of 1940.

Jas. R. McCord, Atlanta.

(b) Maternal Mortality in Georgia.

H. F. Sharpley, Jr., Savannah.

(c) The Conservative Treatment of Eclampsia.

E. Carson Demmond, Savannah.

(d) The Management of Breech Presentation.

Richard Torpin, Augusta.

(e) The Management of Placenta Previa and Accidental Separation of the Placenta.

Rudolph A. Bartholomew, Atlanta.

(f) The Management of Occiput Posterior Positions.

Otis R. Thompson, Macon.

To lead the discussion:

A. G. LeRoy, Tifton.

Henry C. Frech, Jr., Savannah.

FRIDAY, APRIL 26, 9:00 A. M.

Eastern Standard Time

Dining Room—Hotel DeSoto

1. Bronchography in Chest Diseases.

Sherwood C. Lynn, Savannah.

To lead the discussion:

Champ H. Holmes, Atlanta.

G. H. Lang, Savannah.

Murdock Eque, Atlanta.

2. Duodenal Ulcer in Children.

T. Irvin Willingham, Atlanta.

To lead the discussion:

Murl M. Hagood, Marietta.

Stewart D. Brown, Royston.

3. Chronic Hypoglycemia in Psychotic Patients Following Prolonged Insulin Shock Therapy.

J. R. S. Mays, Milledgeville.

To lead the discussion:

H. D. Allen, Jr., Milledgeville.

Jas. N. Brawner, Atlanta.

4. Sarcoma of the Breast.

Everett L. Bishop, Atlanta.

To lead the discussion:

Lee Howard, Savannah.

Jack C. Norris, Atlanta.

5. Biliary Obstruction Complicating Hemorrhagic Diseases of the Newborn.

J. T. Leslie, Griffin.

Kenneth S. Hunt, Griffin.

To lead the discussion:

Ruskin King, Savannah.

Wm. D. Wilson, Savannah.

6. Therapy of the Third, Fourth and Fifth Venereal Diseases—A Three-Year Study of Approximately Two Hundred Negro Women with These Diseases.

Marion T. Benson, Jr., Atlanta.

J. A. Henry, Atlanta.

To lead the discussion:

Edgar R. Pund, Augusta.

Warren B. Matthews, Atlanta.

ALTERNATES

1. Postoperative Care.
J. G. McDaniel, Atlanta.
2. Monilia Infections of the Vagina.
Arthur N. Berry, Columbus.
3. The Treatment of Whooping Cough with Pertussin Antigen.
C. M. Burpee, Augusta.
4. Etiologic Factors of Human Sterility in the Male.
Chas. Rieser, Atlanta.
5. Allergy as Seen Through the Eyes of a General Practitioner.
L. E. Abram, Fitzgerald.
6. The Relief of Pain by Neurosurgical Methods.
Exum Walker, Atlanta.

FRIDAY, APRIL 26, 12:00 NOON

Eastern Standard Time

Dining Room—Hotel DeSoto

ELECTION OF OFFICERS

President-Elect.

First Vice-President.

Second Vice-President.

Secretary-Treasurer.

Two delegates to the A. M. A.

Two alternate delegates to the A. M. A.

*Councilors for the Fifth, Sixth, Seventh and Eighth Districts.

Selection of meeting place for 1941.

*Nominated by their respective district societies.

CONSTITUTION AND BY-LAWS

Chapter II. Section 2. No papers or addresses before the Association, except those of the President and invited essayists, shall occupy more than fifteen minutes in their delivery; and no member shall speak longer than five minutes, nor more than once on any subject, provided that each essayist shall have five minutes in which to close the discussion of his paper.

Chapter VIII. Section 1. The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

Chapter VIII. Section 2. All papers read before the Association shall become its property. Each paper shall

be deposited with the Secretary when read, and if this is not done it shall not be published.

No miscellaneous or business matters will be discussed before the scientific meetings, but will be referred to the House of Delegates.

Resolution Adopted 1921

Resolved: That a member who sends in a title of a paper to be placed on the program and is not present to read the paper shall pay the penalty of not having an opportunity to appear on the program for two years, unless he presents an excuse acceptable to the Committee on Scientific Work.

Notice to Members Participating in the Scientific Exhibit

Three certificates of merit, to be known as first, second and third prizes, will be given by the Committee on Scientific Work to the three outstanding exhibits at this session of the Medical Association of Georgia. These will be judged on the first day of the session.

We are instructed by the President to announce to all essayists that the sessions of the Scientific Program of the Association will begin on time, and that the above regulations of the By-Laws in reference to the program will be strictly enforced.

Committee on Scientific Work

Jno. E. Walker, Columbus, Chairman.

Glenville Giddings, Atlanta.

Wm. R. Dancy, Savannah.

Edgar D. Shanks, Atlanta, Secretary-Treasurer.

SCIENTIFIC EXHIBIT

Congenital Lung Cysts, Air Expansile Types.

Wm. W. Anderson, Atlanta

Salivary Tumors.

Calvin B. Stewart, Atlanta

Diseases of the Skin.

Howard Hailey and Hugh Hailey, Atlanta

Ventricular Air Studies in Brain Tumors.

Edgar F. Fincher, Atlanta

Relief of Pain by Neurosurgical Methods.

Exum Walker, Atlanta

Cancer.

Cancer Commission of the Medical Association of Georgia

Carcinoma of the Prostate.

Montague L. Boyd and J. B. Nuckolls, Atlanta

Malignancies of the G. I. Tract, G. U. Tract and Thyroid.

Wm. F. Lake and A. J. Ayers, Atlanta

Color Photography Through the Cystoscope.

Edgar G. Ballenger, Harold P. McDonald and R. C. Coleman, Jr., Atlanta

Dermatitis Venenata—Contact Dermatitis, Trade and Industrial Dermatitis.

Jack W. Jones and Herbert S. Alden, Atlanta

Study of Twin Placentas.

Richard Torpin, Augusta, University of Georgia School of Medicine

Operative Treatment of Syringomyelia.

R. F. Slaughter, Augusta, University of Georgia School of Medicine

Diagnostic and Operative Neurosurgery—Motion Picture.

R. F. Slaughter, Augusta, University of Georgia School of Medicine

Anesthesiology—Motion Picture Run with Exhibit.

Perry P. Volpito, Augusta, University of Georgia School of Medicine

Surgical Accidents—Emboli: Their Cause, Results, Prevention.

Warren A. Coleman, Eastman

Twenty-Five Years of Public Health.

Glynn County Board of Health, Brunswick

Three Counties Against Syphilis—Motion Picture.

Glynn County Board of Health, Brunswick

Acute Laryngotracheobronchitis—Motion Picture.

Edward S. Wright, Atlanta

Satisfactory Treatment of Postoperative Tetany.

David Henry Poer, Atlanta

Procedures for the Diagnosis and Treatment of Peripheral Arterial Diseases.

David Henry Poer, Atlanta

Normal and Pathological Larynx—Motion Picture.

B. Russell Burke and Wm. B. Armstrong, Atlanta

Skin Tumors.

Philip H. Nippert, Atlanta

The Diagnosis of Common Skin Diseases.

Philip H. Nippert, Atlanta

COMMERCIAL EXHIBIT

2. The C. B. Fleet Company, Lynchburg, Va. W. E. Avery, 136 Ponce de Leon Court, Decatur, Ga.
3. Holland-Rantos Company, 37-41 East 18th Street, New York City.
4. Eli Lilly and Company, Indianapolis, Ind.
5. General Electric X-Ray Corporation, 2012 Jackson Boulevard, Chicago; 205 Spring Street, N.W., Atlanta.
6. The Harrower Laboratory, Inc., Glendale, Cal.
7. The C. V. Mosby Company, 3525 Pine Boulevard, St. Louis, Mo.
8. M. & R. Dietetic Laboratory, Columbus, Ohio.
- 8b. H. J. Heinz Company, Pittsburgh, Pa.
9. Arlington Chemical Company, Yonkers, N. Y.
10. J. B. Lippincott Company, East Washington Square, Philadelphia, Pa.
11. S. & H. X-Ray Company, 501 Peachtree Street, N.E., Atlanta.
12. Wachtel's Physician Supply Company, P. O. Box 623, Savannah.
13. Mead Johnson & Company, Evansville, Ind.
14. John Wyeth & Brother, 1118 Washington Avenue, Philadelphia, Pa.
15. Max Woche & Son, 29-31 West 6th Street, Cincinnati, Ohio; Ben Perryman, P. O. Box 242, Atlanta.
16. Westinghouse X-Ray Company, 565 West Peachtree Street, N.E., Atlanta.
17. Smith, Kline & French Laboratories, 105 North Fifth Street, Philadelphia, Pa.
18. E. R. Squibb & Sons, 745 Fifth Avenue, New York City.
19. J. A. Majors Company, 1301 Tulane Avenue, New Orleans, La.
20. Petrolagar Laboratories, 3134 McCormick Boulevard, Chicago.
22. Denver Chemical Company, 163-167 Varick Street, New York City.
23. Lederle Laboratories, 30 Rockefeller Plaza, New York City; 139 Forrest Avenue, N.E., Atlanta.
24. Sharp & Dohme, Philadelphia, Pa.
25. The William S. Merrell Company, Cincinnati, Ohio.
- 25b. A. S. Aloe Company, St. Louis, Mo.; C. F. Lunsford, Ansley Hotel, Atlanta.
26. Van Pelt & Brown, 503 East Franklin Street, Richmond, Va.
27. Ciba Pharmaceutical Products, Inc., LaFayette Park, Summit, N. J.; Cecil Mozley, 390 Redland Road, N.W., Atlanta.

IN MEMORIAM*

- Anderson, John Franklin, Hillsboro, December 3, 1939, aged 79.
- Bates, Morgan P., Ramhurst, January 30, 1940, aged 78.
- Boland, Samuel A., Loganville, May 24, 1939, aged 67.
- Bradfield, Joseph H., Atlanta, September 6, 1939, aged 72.
- Carmichael, William W., Hampton, June 7, 1939, aged 74.
- Cheshire, Stephen Leander, Thomasville, December 2, 1939, aged 53.
- Coker, Newton Jasper, Canton, September 11, 1939, aged 71.
- Cowart, James Wilson, Walden, October 11, 1939, aged 69.
- Cox, Ross Parker, Rome, December 15, 1939, aged 75.
- Erwin, James Miller, Calhoun, October 26, 1939, aged 75.
- Fort, Arthur Godfrey, Atlanta, September 15, 1939, aged 61.
- Freeman, John E., Atlanta, February 28, 1940, aged 71.
- Greene, Benjamin Walter, Macon, February 5, 1940, aged 54.
- Harbin, Robert Maxwell, Rome, December 12, 1939, aged 76.
- Harrell, Julian Paul, Brunswick, December 27, 1939, aged 59.
- Holliday, Allen C., Athens, August 20, 1939, aged 75.
- Kemper, Harvey Dorman, Jonesboro, July 14, 1939, aged 60.
- Leonard, William P., Talbotton, January 19, 1940, aged 63.
- McKinney, John Charles, Athens, January 31, 1940, aged 70.
- Mitchell, Stephen R., Pineview, November 3, 1939, aged 84.
- Prior, Felix M., Apalachee, May 24, 1939, aged 76.
- Pass, Isadore J., Macon, June 8, 1939, aged 31.
- Smith, Parish Stewart, Conyers, September 2, 1939, aged 62.
- Smith, Singleton Starr, Athens, February 18, 1940, aged 71.
- Talbot, Tully M., Valdosta, July 9, 1939, aged 80.
- Talley, Julius V., Nashville, April 19, 1939, aged 67.

Taylor, Thomas W., West Point, November 1, 1939, aged 74.

Ward, John Franklin, Fitzgerald, April 8, 1939, aged 52.

Warren, William C., Atlanta, April 23, 1939, aged 69.

Willis, Clarence H., Barnesville, August 15, 1939, aged 57.

Wilson, Robert E., Cartersville, June 2, 1939, aged 72.

*This list of deceased physicians has been compiled since our 1939 annual session as their names appear on our records. Please notify the Secretary-Treasurer of any errors or omissions.

MEMBERS

THE GEORGIA MEDICAL SOCIETY

Savannah, 1939-1940*

J. O. Baker	Ruskin King
Craig Barrow	G. H. Lang
W. O. Bedingfield	Lawrence Lee
J. R. Blitch	H. L. Levington
S. E. Bray	W. V. Long
J. R. Broderick	Oscar H. Lott
C. T. Brown	S. C. Lynn
F. B. Brown	E. N. Maner
W. E. Brown	R. V. Martin
T. J. Charlton	M. A. Massoud
J. F. Chisholm, Sr.	D. J. McCarthy
J. F. Chisholm, Jr.	H. H. McGee
W. A. Cole	J. C. Metts
H. T. Compton	H. J. Morrison
E. R. Corson	Wm. H. Myers
W. B. Crawford	R. L. Neville
W. Barron Crawford, Jr.	W. A. Norton
Wm. R. Dancy	R. L. Oliver
J. W. Daniel, Sr.	G. T. Olmstead
J. W. Daniel, Jr.	J. C. O'Neill
St. J. R. deCaradeuc	E. S. Osborne
E. C. Demmond	T. A. Peterson
Robert Drane	J. H. Pinholster
L. B. Dunn	J. E. Porter
D. B. Edwards	Harry J. Portman
M. J. Egan	J. K. Quattlebaum
G. E. Egloff	L. J. Rabhan
J. L. Elliott	C. G. Redmond
M. J. Epting	H. Y. Righton
H. T. Exley	Samuel F. Rosen
G. H. Faggart	Jacob Rubin
D. B. Fillingim	Shelton P. Sanford
Henry Frech, Jr.	Otto W. Schwalb
L. M. Freedman	H. F. Sharpley, Jr.
E. N. Gleaton	J. G. Sharpley
R. E. Graham	L. W. Shaw
R. V. Harris	Wm. Shearouse
Jno. P. Heagarty	W. K. Smith
C. A. Henderson	Frank R. Stephenson
H. W. Hesse	Lloyd B. Taylor
C. F. Holton	M. R. Thomas
Lee Howard	J. K. Train
E. Iseman	E. T. Upson
Jabez Jones	Chas. Usher
J. P. Jones	J. A. Usher
H. M. Kandel	A. J. Waring

*Corrected to March 1, 1940.

T. P. Waring
E. J. Whelan
L. W. Williams

S. Elliott Wilson
W. D. Wilson
W. S. Wilson

CONSTITUTION AND BY-LAWS OF THE MEDICAL ASSOCIATION OF GEORGIA

Constitution

ARTICLE I.—NAME OF THE ASSOCIATION.

The name and title of this organization shall be the Medical Association of Georgia.

ARTICLE II.—PURPOSES OF THE ASSOCIATION

The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Georgia; to extend medical knowledge and advance medical science; to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state and medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES

Component societies shall consist of those county societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION

Section 1. This Association shall consist of members and delegates.

Sec. 2. Members: The members of this Association shall be the members of the component county medical societies to which only white physicians shall be eligible.

Sec. 3. Delegates: Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component societies in the House of Delegates of this Association.

ARTICLE V.—HOUSE OF DELEGATES

The House of Delegates shall be the legislative body of the Association, and shall consist of: (1) delegates elected by the component county societies; (2) the officers of the Association enumerated in Section 1 of Article IX of the Constitution; (3) ex-presidents and delegates to the American Medical Association.

ARTICLE VI.—COUNCIL

The Council shall be the Board of Trustees and Finance Committee of the Association. The Council shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates be called into session as provided in the Constitution and By-Laws.

It shall consist of the Councilors, the President, the President-Elect and the Secretary-Treasurer of the Association. Five of its members shall constitute a quorum.

ARTICLE VII.—SESSIONS AND MEETINGS

Section 1. The annual session shall take place on

the second Wednesday in May at such place as shall be designated by the Association, provided that in case of conflict with the annual session of the American Medical Association or on petition of the county society of the host city made at least six months before the fixed dates for the annual session, the Council may change the dates by publishing a notice in the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA three months before the session.

Sec. 2. Special meetings of either the Association or the House of Delegates may be called by a two-thirds vote of the Council, or upon the petition of twenty delegates.

ARTICLE VIII.—SECTIONS AND DISTRICT SOCIETIES

Section 1. The House of Delegates may provide for a division of the scientific work of the Association into appropriate sections, and for the organization of such Councilor district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE IX.—OFFICERS

Section 1. The officers of this Association shall be a President, President-Elect, two Vice-Presidents, a Secretary-Treasurer, a Parliamentarian, and one Councilor for each congressional district in the State.

Sec. 2. The officers, except the Secretary-Treasurer, Parliamentarian and Councilors, shall be elected annually, provided that after the annual meeting of 1923 a President-Elect and not a President shall be elected annually. The President-Elect shall assume his office as President immediately after the next annual meeting following his election. The terms of the Councilors shall be for three years, as may be arranged, viz: the Councilor for the first, second, third and fourth districts for three years; those for the fifth, sixth, seventh, and eighth districts for one year; those for the ninth and tenth districts for two years. The Secretary-Treasurer shall be elected for a term of five years, and the Parliamentarian for a term of three years. All these officers shall serve until their successors are elected and installed. (1933.)

Sec. 3. The officers of this Association shall be elected by ballot at 12 o'clock noon on the third day of the annual session. Nomination for office shall be made orally, but the nominating speech must not exceed two minutes. The Councilors shall be elected at the same time on nomination by their respective district societies at the annual meetings of such societies preceding the annual session of the Association at which the vacancies occur, but if no nomination from a district society is brought before the Association, the nomination for Councilor may be presented from the floor. If there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on, the other names being dropped. If there is no election on the second ballot, the two names receiving the highest number of ballots shall be voted on until an election occurs. Delegates to the American Medical Association shall be elected at the same time and in the same manner.

Sec. 4. The members of the State Board of Health shall be nominated by their respective district societies

at the annual meeting of such societies preceding the annual session of this Association, and in failure of nomination by district societies, they may be nominated by the delegates present from each of the district societies, all of which shall be ratified by this Association.

ARTICLE X.—FUNDS AND EXPENSES

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall not exceed the sum of \$10.00 per capita per annum. Funds may be appropriated by the House of Delegates to defray the expenses of the Association, for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be approved by the Finance Committee before action is taken thereon.

ARTICLE XI.—RATIFICATION

The House of Delegates shall submit all questions before it to the Association for ratification.

ARTICLE XII.—THE SEAL

The Association shall have a common seal, with power to break, change or renew the same at pleasure.

ARTICLE XIII.—AMENDMENTS

Any amendment that may be offered to the Constitution shall lie over until the next annual session; and for its adoption at such session shall require a two-thirds vote of all present and voting.

By-Laws

CHAPTER I.—MEMBERSHIP

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be *prima facie* evidence of membership in this Association.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Sec. 4. Special memberships. In addition to regular members, component societies may elect to membership in their organizations, for membership in this Association, the following groups of members:

(a) *Honorary members.* Any member for old age, length of service, or other good reasons, may be elected an honorary member of his county medical society, for membership in this Association. Such member shall, after election, be issued a certificate of honorary membership in this Association.

Non-resident physicians and resident or non-resident lay persons who have distinguished themselves in fields

of endeavor devoted to the advancement of human welfare, may be nominated by county medical societies, or by the House of Delegates of this Association, for honorary membership in this Association. A county medical society shall not nominate for this class of membership more than one person each year. The name of such person shall be sent to the Secretary-Treasurer of this Association thirty days in advance of the annual session. Such person shall be issued an appropriate certificate of honorary membership in this Association if, and when, he is elected to honorary membership by this Association.

(b) *Associate members.* Eligible to this classification are (1) those regular members of component societies to whom the payment of dues would be an undue hardship; (2) interns, and (3) commissioned medical officers of the United States Army, the United States Navy and the United States Public Health Service while engaged actively in their respective services or if they have been retired on account of age or physical disability, or, after long and honorable service, under the provisions of an Act of Congress.

(c) Honorary and Associate members shall not be subject to the payment of dues to the State Association. They shall enjoy the privilege of full participation in the scientific, social and educational activities of this Association. They shall not vote or hold office and do not receive the JOURNAL or benefits of Medical Defense.

Sec. 5. Any physician applying for membership in a component medical society of this Association, who has previously practiced in a county in which affiliation with a component society is provided, and who moves to another county without having affiliated with the medical society in the jurisdiction of previous residence, before he is admitted to membership, the cause for his lack of affiliation in the society of his previous residence shall be ascertained.

CHAPTER II.—GENERAL MEETINGS

Section 1. All registered members may attend and participate in the proceedings and discussions of the general meetings. Visitors duly accredited to represent the Association of other states, or of the District of Columbia, not exceeding two in number for each organization, may attend upon, and participate in, the discussion of the general meetings, but shall not have a vote. Such delegates may read papers upon invitation of the Committee on Scientific Work. The general meetings shall be presided over by the President or by one of the Vice-Presidents.

Sec. 2. No papers or addresses before the Association, except those of the President and invited essayists, shall occupy more than fifteen minutes in their delivery; and no member shall speak longer than five minutes, nor more than once on any subject, provided that each essayist shall have five minutes in which to close the discussion of his paper.

Sec. 3. Entertainments. Any social entertainment which may be given by this Association shall be confined to the evening of the second day.

Sec. 4. Guests. Any physician not a resident of this State but a member of his state association, or any distinguished scientist not a physician, may be counted a

guest during any annual session on invitation of the President, and shall be accorded the privilege of participating in the scientific work of that session.

CHAPTER III.—HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet on the day preceding the first day of the annual session, the time to be fixed by the Committee on Scientific Work. It may adjourn from time to time as may be necessary to complete its business; provided that its hours shall conflict as little as possible with the general meetings. The order of business shall be arranged as a separate section of the program.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for each fraction thereof, but each component society which has made its annual report and paid its assessment as provided in this Constitution and By-Laws shall be entitled to one delegate. Should the regular delegate from any county not be present at the meeting, the President shall appoint a substitute from that county to act.

Sec. 3. Twenty delegates present shall constitute a quorum.

Sec. 4. It shall, through its officers, council and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interest of the profession, and of the public in those important matters wherein it is dependent on the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interests of such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall constitute these efforts until, if possible, every physician in every county of the State has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate and research work as well as home study, and shall endeavor to have the results utilized, and intelligently discussed in the county societies.

Sec. 8. It shall divide the State into councilor districts, one for each congressional district, and when the best interests of the Association and profession will be promoted thereby, organize in each a district medical society, and all members of component county societies and no others shall be members in such district societies.

Sec. 9. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of

Delegates and may be present and participate in the debate thereon.

CHAPTER IV.—DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and as far as practicable, shall visit, by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

In order to give him a better opportunity of becoming more fully acquainted with his duties and with the needs of the Association, the President shall be elected one year prior to taking office. During this time he shall be known as President-Elect and shall be ex-officio member of the standing committees, and shall make recommendations at the next annual session.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of the President's death, resignation or removal, the Vice-Presidents, in their order, shall succeed him.

Sec. 3. The Secretary-Treasurer shall give bond in the sum of One Thousand Dollars. He shall demand and receive all funds due the Association, together with the bequests and donations.

Sec. 4. The Secretary-Treasurer shall attend the general meetings of the Association and the meetings of the House of Delegates, and shall keep the minutes of their respective proceedings in separate record books. He shall be ex-officio Secretary of the Council. He shall be custodian of all record-books and papers belonging to the Association. He shall provide for the registration of the members, delegates and accredited visitors at the annual session. He shall, with the cooperation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and on request transmit a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county societies in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistants as may be ordered by the House of Delegates with the approval of the Association, and shall make an annual report to the Association. He shall supply each component society with the necessary blanks for making their annual reports; shall keep an account with the component societies, charging against each society its assessment and collect the same. Acting with the Committee on Scientific Work, he shall prepare and issue all programs. The amount of his salary shall be fixed by the Association. He shall be editor of the Journal of the Medical Association of Georgia. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

He shall furnish a balance sheet at each annual meeting for the past fiscal year to be published in the Journal. This shall consist of an itemized statement of all financial transactions of the past year, all accounts made, money received and from whom and all moneys disbursed, to whom, and for what purpose, with vouchers attached. A fiscal year includes the period of time between the first day of May and the last day of April.

CHAPTER V.—COUNCIL

Section 1. The Council shall meet on the day preceding the annual session and daily during the session, and at such other times as necessity may require, subject to the approval of the President. It shall meet on the last day of the annual session of the Association to organize and outline work for the ensuing year. It shall elect a chairman and clerk, who, in the absence of the Secretary of the Association, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates. It shall be the business body of the Association and attend to the business of the Association in the interim between meetings.

Sec. 2. Each Councilor shall be organizer and peace-maker for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the conditions of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work and of the condition of the profession of each county in his district at the annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates on a properly itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association. Each Councilor may appoint a Vice-Councilor to assist him in the performance of his duties in his district.

Sec. 3. The Council shall be the board of censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members of a component society, on which an appeal is taken from the decision of an individual Councilor, or to which attention has been called by the Councilor or interested members. It shall hear and decide all questions affecting unethical conduct on the part of any members at any annual session, and its decision in all such matters shall be final when ratified by the Association.

Sec. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and the societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the Journal of the Medical Association of Georgia, which is the organ of the Association, and all money paid into the treasury as dues shall be received as subscriptions to the Journal.

All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Secretary-Treasurer of the Association. As the Finance Committee it shall annually audit the accounts of the Secretary-Treasurer and other agents of this Association, and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association under its control, with such suggestions as it may deem necessary. In the event of a vacancy in the office of the Secretary-Treasurer, the Council shall fill the vacancy until the next annual election.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers heard before the Association, shall be referred to the Journal of the Medical Association of Georgia for publication. The editor, with the consent of the Councilor for the district in which he resides, may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the annual sessions shall be within the control and direction of the Council.

Sec. 8. In the absence of a Councilor and Vice-Councilor the President is empowered to appoint a representative from the district as acting Councilor, who shall have full rights and power of a Councilor.

Sec. 9. Each Councilor shall render at every session a written report of each county in his district.

Sec. 10. Any member of the Council who fails to attend two regular successive sessions of the Council, or whose district does not show evidence of the performance of his duties during the year, unless he renders an acceptable excuse to the Council, is subject to have his position declared vacant by the President and a successor appointed by the President.

CHAPTER VI.—COMMITTEES

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Arrangements.

A Committee on Medical Defense, and such other committees as may be necessary.

Sec. 2. The Committee on Scientific Work shall consist of four members, one of whom shall be the Secretary-Treasurer. The other three members shall be appointed for terms of one, two, and three years, respectively. The vacancy which will occur each year by the expiration of the term of one member shall be filled by the President with an appointment for three years. The member who

has the shortest time to serve shall be Chairman. The committee shall determine the character and scope of the scientific proceedings of the Association for each session. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

This By-Law shall not prohibit the Committee on Scientific Work from inviting not more than two distinguished members of the national organization to deliver addresses or read papers at any annual meeting.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary, the Commissioner of Health of the State of Georgia, and a sub-committee of three members from each Councilor District appointed by the chairman when needed. It shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, state and national affairs and elections.

Sec. 4. The Committee on Arrangements shall be appointed by the component society in which the annual session is to be held. It shall provide suitable accommodations for the meeting places of the Association and of the House of Delegates and their respective committees, and shall have general charge of all arrangements. Its chairman shall report an outline of the arrangements to the Secretary-Treasurer for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 5. The Committee on Medical Defense shall consist of five members, of whom the Chairman of the Council and the Secretary-Treasurer of the Association shall be members. The other members, one of whom shall act as Chairman of the Committee, shall be elected by the Council for a period of five years. Those elected at this meeting (April 19, 1916), shall serve one, three and five years, respectively.

It shall be the duty of the Committee on Medical Defense to investigate and defend all damage suits against the Medical Association of Georgia; to investigate all claims of civil malpractice made against its members; to take full charge of such cases, which after investigation, they decide to be proper cases for defense; to defend all such cases in the courts of last resort, to furnish General Counsel and pay court cost usual to such litigation, and reasonable fees for local attorneys as shall be arranged by General Counsel. Provided that any member who has indemnity insurance shall have such insurance bear its portion of the expense. However, they shall not pay, or obligate the Medical Association of Georgia to pay, any judgment rendered against any member upon the final determination of any case. They shall be empowered to contract with such agents or attorneys as they may deem necessary for the proper carrying out of this By-Law.

The assistance for defense, as herein provided, shall be available only to members of the Medical Association

of Georgia in good standing. Any member who has not paid his annual dues by April 1st shall not be considered in good standing in the application of this By-Law.

Any member or members of the Association threatened with suit for civil malpractice shall immediately communicate with the Secretary of the Association and shall give full and complete information in reference to all the circumstances alleged in the complaint. The Secretary shall proceed immediately to investigate the circumstances reported and shall advise with the attorneys or agents employed by the Committee for this purpose. The member sued, or threatened with suit, shall be consulted and shall have the complete confidence of the Committee in all transactions connected with the investigation in question. The Committee shall have the authority to require of a constituent society or the president thereof, the appointment of a committee of investigation in any such case, and it may direct the committee so appointed to report to the Committee on Medical Defense and not to the society from which it was appointed.

The Committee on Medical Defense may also, at its discretion, arrange to prosecute illegal practitioners in the State of Georgia and assist in the enforcement of the Medical Practice Act of this State.

CHAPTER VII.—COUNTY SOCIETIES

Section 1. All county societies now in affiliation with this Association, or those which may hereafter be organized in the State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, on application, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charter shall be issued thereto.

Sec. 3. Charters shall be issued only on approval of the Council, and shall be signed by the President and Secretary of this Association. The Association shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Association, every legally registered white physician who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership. Physicians who have been legally registered in other states or who have been licensed by the National Board of Medical Examiners, or who are employed as teachers in the medical schools, or are in the service of the State, a county, a municipality, or the United States Government other than the regular medical corps of the United States Army, the United States Navy and the United States Public Health Service, may be accepted for membership in county medical societies, for membership in this Association, provided they meet the requirements of regular membership. Before a charter is issued to any county

medical society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. No matter what the unethical conduct or discipline of the members of the county society may be, both plaintiff and defendant shall have the right to appeal to the Council, whose decision shall be final when ratified by the Association.

Sec. 7. In hearing appeals the Council may admit oral or written evidence, as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component county society moves to another county in this State, he shall be given a written certificate of these facts by the secretary of his society, without cost, for transmission to the secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he moves, such member shall be considered to be in good standing in the county society from which he was certified and in the Medical Association of Georgia to the end of the period for which his dues have been paid.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Sec. 10. Each component society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the annual session of this Association, each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each fifty members, or fraction thereof, and the Secretary of the society shall send a list of such delegates to the Secretary of this Association at least ten days before the annual session.

Sec. 12. The Secretary of each component society shall keep a roster of its members, and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 13. The Secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and lists of non-affiliated physicians of the county, to the Secretary of this Association each year, thirty days before the annual session.

Sec. 14. Any county society which fails to pay its assessment, or make the report required on or before April 1 of each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association, or of the House of Delegates, until such requirement has been met.

Sec. 15. The Secretary of each county society shall report to the Journal of the Medical Association of Georgia full minutes of each meeting and forward to it all scientific papers and discussions which the society shall consider worthy of publication.

CHAPTER VIII.—RULES AND ETHICS

Section 1. The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

Sec. 2. All papers read before the Association shall become its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

Sec. 3. The principles of medical ethics of the American Medical Association shall be those of this Association.

Sec. 4. Any member of this Association, on locating in a new place for practicing his profession, may place his professional card, containing name, address, telephone number, and statement as to whether or not his practice will be limited to any particular class of disease, in the local paper for a period of not longer than one month. The placing of such card for this period of time shall not be considered unethical. The use of the word "specialist" by any member in connection with his name in any newspaper, telephone directory, or other public places, shall be considered unethical.

CHAPTER IX.—AMENDMENTS

These By-Laws may be amended at any annual session by a majority vote of the Association after the amendment has lain on the table for one day.

RESOLUTIONS.

MEDICAL ASSOCIATION OF GEORGIA

1921

Resolved, That a member who sends in a title of a paper to be placed on the program and is not present to read the paper, shall pay the penalty of not having an opportunity to appear on the program for two years, unless he presents an excuse acceptable to the Committee on Scientific Work.

1922

Be it Resolved, That the House of Delegates recommend that the Committee on Scientific Work make available on the program of the State Association space for two papers from each Councilor district; that a definite time be assigned for reading and discussion of each of these papers, and they be given precedence over all other business. The said papers are to be selected by the Committee on Scientific Work, and, in case a writer does not respond when his name is called, some paper will be substituted and the schedule not deranged. The President ruled that this resolution is only a recommendation and not a law.

1928

Resolved, That the delegates to the A. M. A. elected at this and succeeding meetings of the Medical Association of Georgia be installed January 1st, following their election, and that their term of service run for two years thereafter. And be it further

Resolved, That our delegates be authorized to attend the regular and any called meeting of the House of Delegates of the American Medical Association during the term to which they are elected.

1929

Resolved, That in order to expedite the business of the House of Delegates, all reports of special and regular committees of the Association involving matters of public policy, legislation or appropriation of the funds of the Association be submitted in writing to the Secretary of the Association a sufficient time in advance of the regular annual session, about March 15th, to permit the publication of said recommendations either in the official program prior to the session or in a special circular that shall be mailed to the constituent societies, in order that the delegates may be advised of the proposed changes.

1939

Resolved, That the House of Delegates set the amount of dues at \$7.00 per capita for the year 1940.

NEWS ITEMS

THE EMORY UNIVERSITY HOSPITAL STAFF met on February 1. Dr. Walter R. Holmes reported a case of Granulosa Cell Tumor; discussed by Dr. J. F. Denton and Dr. E. L. Bishop; Dr. W. W. Anderson, case of "Coal Oil Pneumonia"; Dr. Geo. H. Cochran, case of "Spinal Cord Tumor"; discussed by Dr. C. W. Strickler, Jr.

THE FELTON COUNTY MEDICAL SOCIETY, Atlanta, met on February 15. Dr. T. C. Davison, Medical Reserve Corps, U. S. A., spoke on "National Defense." Dr. Calvin B. Stewart and Dr. Albert A. Rayle reported a case, "Mixed Tumor of Parotid with Metastasis." Dr. Ricardo Mestre made a clinical talk on "Parasitism in Subtropical America." Dr. T. Irvin Willingham read a paper on "Tuberculosis in Children with Report of Cases"; discussed by Dr. M. Hines Roberts, Dr. L. H. Muse and Dr. C. C. Aven.

THE FOURTH DISTRICT MEDICAL SOCIETY met at the Everee Club, near Griffin, on February 13. Titles of papers on the scientific program included "Treatment of Pneumonias," by Dr. E. Van Buren, Atlanta; "Uterine Prolapse—Illustrated with Motion Pictures," Dr. Olin S. Cofer; "Chest Conditions in Children," Dr. Don F. Cathcart, Atlanta; "Sulfapyridine in the Treatment of Pneumonia," Dr. W. H. Clark, LaGrange; "Problems in Cancer Control," Dr. Enoch Callaway, LaGrange.

DR. GEO. L. WALKER, Griffin, has been re-elected chairman of the Griffin Board of Health.

The DeKalb County Medical Society held its annual meeting at the Candler Hotel, Decatur, January 20.

(Continued on page 198)

WOMAN'S AUXILIARY : OFFICERS 1939-1940

President—Mrs. Eustace A. Allen, 18 Collier Road, N. W., Atlanta.

President-elect—Mrs. H. G. Banister, Ila.

First Vice-President—Mrs. Lee Howard, 625 East 44th Street, Savannah.

Second Vice-President—Mrs. C. H. Richardson, Milledgeville.

Third Vice-President—Mrs. Loren Gary, Jr., Shellman.

Press and Publicity—Mrs. J. Harry Rogers, 134 Huntington Road, N. W., Atlanta.

Recording Secretary—Mrs. Cleveland Thompson, Millen.

Corresponding Secretary—Mrs. Olin S. Cofer, 948 Lullwater Road, Atlanta.

Treasurer—Mrs. R. A. Woodbury, Jr., 1232 Belmont Drive, Augusta.

Historian—Mrs. J. L. Nevil, Metter.

Parliamentarian—Mrs. L. W. Williams, 135 East 45th Street, Savannah.



MRS. EUSTACE A. ALLEN, Atlanta
President, 1939-1940

INVITATIONS

To the Members of the Woman's Auxiliary:

As your State President, I wish to invite you to attend the Sixteenth Annual Meeting of the Woman's Auxiliary to the Medical Association of Georgia in Savannah, April 23-26. I assure you a hearty welcome awaits you. Hospitality is the keynote of Savannah and all Auxiliary members are looking forward with pleasure to your visit, having given much time and thought to making your stay there a happy and memorable one.

It is my hope that every member of our Auxiliary will attend. I will be looking forward to seeing you there.

ROSE N. ALLEN
(Mrs. Eustace A. Allen)

To the Members of the Woman's Auxiliary:

The Woman's Auxiliary to the Georgia Medical Society, of Chatham County, extends a most cordial invitation to you, as members of the Medical Auxiliaries of Georgia, to attend the State Convention in Savannah, April 23-26.

We are indeed honored that the Sixteenth Annual Convention will be held in our beautiful and historic city of the South and we assure you that Savannah will be yours during those days.

Each member feels happy to have a part in making plans for your meetings and entertainment. We trust that this will be a successful convention and we believe that you will find something in our program that you will enjoy. Make your plans to be here for all meetings and social affairs.

Looking forward to seeing you in April, I extend to you, on behalf of the Woman's Auxiliary to the Georgia Medical Society, a very sincere invitation.

MRS. LEHMAN W. WILLIAMS, *President.*
Woman's Auxiliary to the
Georgia Medical Society.

PROGRAM

SIXTEENTH ANNUAL CONVENTION
WOMAN'S AUXILIARY TO THE
MEDICAL ASSOCIATION OF GEORGIA
DESOTO HOTEL, SAVANNAH

OFFICERS AND COMMITTEES

Executive Board

President—Mrs. Eustace A. Allen, Atlanta

President-Elect—Mrs. H. G. Banister, Ila

First Vice-President—Mrs. Lee Howard, Savannah.

Second Vice-President—Mrs. C. H. Richardson, Milledgeville

Third Vice-President—Mrs. Loren Gary, Jr., Shellman

Recording Secretary—Mrs. Cleveland Thompson, Millen

Corresponding Secretary—Mrs. Olin S. Cofer, Atlanta

Treasurer—Mrs. R. A. Woodbury, Augusta

Historian—Mrs. J. L. Nevil, Metter

Parliamentarian—Mrs. L. W. Williams, Savannah

Chairmen of Standing Committees

Past Presidents of State Auxiliary

District Managers

Presidents of County Auxiliaries

Chairmen of Standing Committees

Organization—Mrs. H. G. Banister, Ila

Health Education—Mrs. Lee Howard, Savannah

Hygeia—Mrs. C. H. Richardson, Milledgeville
 Scrapbook—Mrs. Loren Gary, Jr., Shellman
 Public Relations—Mrs. Stewart Brown, Royston
 Legislation—Mrs. G. Lombard Kelly, Augusta
 Press and Publicity—Mrs. J. Harry Rogers, Atlanta
 Health Films—Mrs. Fred Rawlings, Sandersville
 Doctors' Day—Mrs. W. B. Schaefer, Toccoa
 Research in Romance of Medicine—Mrs. C. M. Burpee, Augusta
 Student Loan Fund—Mrs. Ralph H. Chaney, Augusta
 Jane Todd Crawford Memorial—Mrs. Thomas J. Ferrell, Waycross
 Revisions—Mrs. James N. Brawner, Atlanta
 Archives—Mrs. J. Bonar White, Atlanta
 Exhibits—Mrs. Harry M. Kandel, Savannah
 Memorials—Mrs. J. R. McMichael, Quitman
 "Mrs. James N. Brawner Trophy"—Mrs. Warren A. Coleman, Eastman
 "Mrs. J. Bonar White Exhibit and Scrapbook Awards"—Mrs. J. A. Redfearn, Albany

District Managers

First District—Mrs. Julian K. Quattlebaum, Savannah
 Second District—Mrs. J. A. Redfearn, Albany
 Third District—Mrs. W. G. Elliott, Cuthbert
 Fourth District—Mrs. Kenneth D. Grace, LaGrange
 Fifth District—Mrs. George A. Williams, Atlanta
 Sixth District—Mrs. Y. H. Yarborough, Milledgeville
 Eighth District—Mrs. Louis Smith, Lakeland
 Ninth District—Mrs. C. J. Roper, Jasper
 Tenth District—Mrs. D. N. Thompson, Elberton

Presidents of County Auxiliaries

Baldwin County—Mrs. Charles H. Richardson, Milledgeville
 Barrow County—Mrs. W. T. Randolph, Winder
 Bibb County—Mrs. J. P. Holmes, Macon
 Brooks County—Mrs. J. R. McMichael, Quitman
 Bulloch-Candler-Evans Counties—Mrs. B. A. Deal, Statesboro
 Burke-Jenkins-Screven Counties—Mrs. L. F. Lanier, Sylvania
 Clarke-Oglethorpe-Oconee-Madison Counties—Mrs. Weyman Davis, Athens
 Chatham County (Georgia Medical Society Auxiliary)—Mrs. L. W. Williams, Savannah
 Cherokee-Pickens Counties—Mrs. T. J. Vansant, Woodstock
 Coffee County—Mrs. Roy L. Johnson, Douglas
 Colquitt County—Mrs. W. R. McGinty, Moultrie
 Dodge-Pulaski Counties—Mrs. J. Cox Wall, Eastman
 Dooly County—Mrs. E. B. Davis, Byromville
 Dougherty County—Mrs. W. S. Cook, Albany
 Elbert County—Mrs. D. V. Bailey, Elberton
 Emanuel County—Mrs. R. L. Sample, Summit
 Fulton County—Mrs. Forrest M. Barfield, Atlanta
 Glynn County—Mrs. J. W. Simmons, Brunswick
 Habersham County—Mrs. C. M. Sharp, Alto
 Hart County—Mrs. H. E. Teasley, Hartwell
 Houston-Peach Counties—Mrs. R. L. Cater, Perry
 Jackson County—Mrs. L. C. Allen, Hoschton
 Laurens County—Mrs. C. A. Hodges, Dublin
 Macon County—Mrs. C. P. Savage, Montezuma
 Muscogee County—Mrs. William C. Cook, Columbus

Randolph-Clay-Stewart-Quitman Counties—Mrs. Loren Gary, Jr., Shellman
 Richmond County—Mrs. W. Eugene Matthews, Augusta
 Spalding County—Mrs. T. O. Vinson, Griffin
 Stephens County—Mrs. C. L. Ayers, Toccoa
 Tift County—Mrs. C. A. Fleming, Tifton
 Toombs County—Mrs. J. E. Mercer, Vidalia
 Troup County—Mrs. Kenneth D. Grace, LaGrange
 Washington County—Mrs. Fred Rawlings, Sandersville
 Ware County—Mrs. Leo Smith, Waycross

Conventions and Presidents

Honorary President for Life—Mrs. James N. Brawner, Atlanta
 1924—Augusta—(Organization)—Mrs. C. W. Roberts, Atlanta, Temporary Chairman
 1925—Atlanta—Mrs. James N. Brawner, Atlanta
 1926—Albany—Mrs. William H. Myers, Savannah
 1927—Athens—Mrs. C. W. Roberts, Atlanta
 1928—Savannah—Mrs. Paul Holliday, Athens (Mrs. J. C. Moore, Gaffney, S. C.)
 1929—Macon—Mrs. C. C. Hinton, Macon
 1930—Augusta—Mrs. Marion T. Benson, Atlanta
 1931—Atlanta—Mrs. C. C. Harrold, Macon
 1932—Savannah—Mrs. Ralston Lattimore, Savannah
 1933—Macon—Mrs. S. T. R. Revell, Louisville
 1934—Augusta—Mrs. J. Bonar White, Atlanta
 1935—Atlanta—Mrs. J. E. Penland, Waycross
 1936—Savannah—Mrs. Ernest R. Harris, Winder
 1937—Macon—Mrs. William R. Dancy, Savannah
 1938—Augusta—Mrs. Ralph H. Chaney, Augusta
 1939—Atlanta—Mrs. Warren A. Coleman, Eastman

COMMITTEES

General Chairmen

Mrs. G. Herman Lang, Savannah
 Mrs. Shelton P. Sanford, Savannah

Advisory

Mrs. William H. Myers, Savannah

Credentials and Registration

Mrs. William R. Dancy, Savannah, Chairman
 Mrs. Ralston Lattimore, Savannah
 Mrs. Rufus E. Graham, Savannah
 Mrs. George H. Johnson, Savannah
 Mrs. John W. Daniel, Sr., Savannah
 Mrs. Charles Usher, Savannah
 Mrs. John Paul Jones, Savannah

Arrangements

Mrs. Robert V. Martin, Savannah, Chairman
 Mrs. Herman Hesse, Savannah
 Mrs. Elton S. Osborne, Savannah

Decorations

Mrs. Ralph E. Porter, Savannah, Chairman
 Mrs. S. Elliott Wilson, Savannah
 Mrs. Lawrence Lee, Savannah
 Mrs. Antonio J. Waring, Savannah
 Mrs. John K. Train, Savannah
 Mrs. T. J. Charlton, Savannah
 Mrs. Jabez Jones, Savannah
 Mrs. M. J. Egan, Savannah

Luncheon

Mrs. James C. Metts, Savannah, Chairman
 Mrs. R. Lester Neville, Savannah, Co-Chairman

Mrs. T. A. Peterson, Savannah
Mrs. Samuel F. Rosen, Savannah
Mrs. L. M. Freedman, Savannah

Teas

Mrs. John W. Daniel, Jr., Savannah, Chairman
Mrs. J. Reid Broderick, Savannah
Mrs. E. Carson Demmond, Savannah
Mrs. E. Thomas Upson, Savannah
Mrs. H. F. Sharpley, Jr., Savannah
Mrs. Julian Chisholm, Savannah
Mrs. Raymond V. Harris, Savannah
Mrs. S. Elliott Wilson, Savannah

Banquet and Dance

Mrs. Julian K. Quattlebaum, Savannah, Chairman
Mrs. F. B. Brown, Savannah
Mrs. Walter E. Brown, Savannah
Mrs. G. T. Olmstead, Savannah
Mrs. Edwin N. Maner, Savannah
Mrs. N. L. Barnes, Savannah
Mrs. E. N. Gleaton, Savannah

Hospitality

Mrs. Lehman W. Williams, Savannah, Chairman
Mrs. J. H. Pinholster, Savannah
Mrs. James C. Metts, Savannah
Mrs. Julian K. Quattlebaum, Savannah
Mrs. H. Y. Righton, Savannah
Mrs. Lee Howard, Savannah
Mrs. A. A. Morrison, Sr., Savannah
Mrs. Herman Hesse, Savannah
Mrs. P. H. Smith, Savannah
Mrs. S. C. Lynn, Savannah
Mrs. Eric Johnson, Savannah
Mrs. C. A. Henderson, Savannah
Mrs. C. C. Hedges, Savannah
Mrs. D. B. Fillingim, Savannah
Mrs. R. L. Oliver, Savannah
Mrs. A. J. Kelly, Savannah
Mrs. H. L. Levington, Savannah
Mrs. John P. Heagarty, Savannah

Entertainment

Mrs. Ruskin King, Savannah, Chairman
Mrs. J. S. Howkins, Savannah
Mrs. W. Barron Crawford, Jr., Savannah

Transportation

Mrs. C. F. Holton, Savannah, Chairman
Mrs. John Sharpley, Savannah
Mrs. T. J. Charlton, Savannah
Mrs. L. B. Dunn, Savannah
Mrs. J. E. Porter, Savannah

Exhibits

Mrs. Harry M. Kandel, Savannah, Chairman
Mrs. H. H. McGee, Savannah, Local Chairman
Mrs. Lee Howard, Savannah
Mrs. W. O. Bedingfield, Savannah
Mrs. L. W. Shaw, Savannah
Mrs. A. A. Morrison, Savannah

Timekeeper

Mrs. Lee Howard, Savannah, Chairman
Mrs. Lehman W. Williams, Savannah
Mrs. William R. Dancy, Savannah

Health Films

Mrs. Fred Rawlings, Sandersville, Chairman

Mrs. Charles Usher, Savannah, Local Chairman
Bulletin

Mrs. L. H. DeLoach, Savannah, Chairman
Mrs. Leonard J. Rabhan, Savannah
Mrs. B. K. Millmore, Savannah
Mrs. W. D. Wilson, Savannah
Mrs. Lloyd B. Taylor, Savannah

Pages

Mrs. Charles M. McGill, Savannah, Chairman
Miss Louise Osborne, Savannah
Miss Addine Myers, Savannah
Miss Ann Martin, Savannah
Miss May Howard, Savannah
Miss Nancy Wilson, Savannah
Miss Ann Waring, Savannah
Miss Betty Williams Quinn, Savannah

Publicity

Mrs. J. Harry Rogers, Atlanta, State Chairman
Mrs. Harry M. Kandel, Savannah, Local Chairman
Mrs. George H. Johnson, Savannah
Mrs. L. M. Freedman, Savannah

PROGRAM

Hotel DeSoto Headquarters

TUESDAY, APRIL 23

REGISTRATION

Entertainment and Program

Tuesday, April 23, 7:45 P. M.

Executive Board Meeting, Hotel DeSoto

Tuesday, April 23, 9:00 to 11:00 P. M.

Dr. and Mrs. Julian K. Quattlebaum, 203 East 45th Street, Open House in honor of the State Officers. All members of the State Medical Association and their wives are invited.

Wednesday, April 24, 9:30 to 12:00, General Meeting.

Wednesday, April 24, 1:00 P. M., Luncheon, Oglethorpe Club, Gaston Street entrance.

Wednesday, April 24, 4:00 to 6:00 P. M., Tea at "Wormsloe," home of Dr. and Mrs. Craig Barrow. Given by the Woman's Auxiliary to the Georgia Medical Society. All members of the State Medical Association and their wives are invited.

Wednesday, April 24, 8:00 P. M., Public Meeting, Medical Association of Georgia.

Thursday, April 25, 9:30 to 12:00, General Meeting

Thursday, April 25, 2:00 P. M., Tour to Henry Ford's Plantation

Thursday, April 25, 7:30, Joint Banquet and Dance

PROGRAM

WEDNESDAY, APRIL 24, 1940, 9:30 A. M.

Eastern Standard Time

Hotel DeSoto

Call to Order by the President, Mrs. Eustace A. Allen, Atlanta

Invocation

Dr. Henry J. Black, Rector, St. Paul's Lutheran Church, Savannah

Address of Welcome

Mrs. Lehman W. Williams, Savannah
President, The Woman's Auxiliary to the Georgia Medical Society (Chatham County)

Response to the Address of Welcome
 Mrs. Enoch Callaway, LaGrange
Introduction of Officers and Honor Guests
 Mrs. William R. Dancy, Savannah

ADDRESS

What the Auxiliary Has Done
 Dr. William H. Myers, Savannah
 President, Medical Association of Georgia

ADDRESS

Functions of the Auxiliary
 Mrs. Rollo K. Packard, Chicago
 President, Woman's Auxiliary to the American Medical Association

Report of Entertainment Committee
 Mrs. Ruskin King, Savannah
 Rules Governing Convention Procedure,
 Mrs. Lehman W. Williams, Savannah, Parliamentarian
 Reading of the Minutes
 Reports of District Managers
 Reports of County Presidents
 Report of Executive Committee by Secretary
 Report of Credentials Committee by Chairman, Mrs.
 William R. Dancy, Savannah
 Appointment of Special Committees
 Adjournment

THURSDAY, APRIL 25, 9:30 A. M.
Eastern Standard Time

Hotel DeSoto
 Call to order by the President, Mrs. Eustace A. Allen,
 Atlanta

Invocation
 Rev. Ernest Risley, Rector, St. John's Episcopal Church,
 Savannah

Address of Welcome
 Mrs. James C. Metts, Savannah,
 Vice-President to the Woman's Auxiliary to the Georgia
 Medical Society (Chatham County)

Response to Address of Welcome
 Mrs. W. W. Chrisman, Macon
Report of Advisory Committee to the Woman's Auxiliary
 Dr. James N. Brawner, Atlanta

Address
 "The Auxiliary as a Liaison Between the Medical Association and Lay Organizations"—Dr. J. C. Patterson, Cuthbert, President-Elect, Medical Association of Georgia

Address
 "Present-Day Opportunities of Service for the Doctor's Wife"—Mrs. Charles P. Corn, Greenville, S. C., President, Woman's Auxiliary to the Southern Medical Association

Memorial Service
 Mrs. J. R. McMichael, Quitman
 Reading of the Minutes
 Report of the President
 Report of Officers
 Report of Auditors
 Report of Meeting of Auxiliary to the American Medical

Association, by Mrs. Walker L. Curtis, College Park
 Report of Meeting of Auxiliary to the Southern Medical Association, by Mrs. J. R. S. Mays, Milledgeville
 Report of Chairmen of Standing Committees
 Report of Resolutions Committee, Chairman
 Report of Courtesy Committee, Chairman
 Report of Credentials Committee, Chairman
 Unfinished Business
 New Business
 Report of Nominating Committee
 Election of Officers
 Installation of Officers
 Presentation of Past President's pin to retiring President, by Mrs. Joseph Yampolsky, Atlanta
 Announcements by new President
 Mrs. H. G. Banister, Macon
 Adjournment

The Mrs. James N. Brawner Trophy and Mrs. J. Bonar White Exhibit and Scrapbook Awards will be awarded at the Annual Banquet of the Medical Association and the Auxiliary, Thursday evening, April 25, 1940.

THURSDAY, APRIL 25, 2:30 P. M.
 Post Convention Board Meeting
 Mrs. H. G. Banister, President

- Rules to Govern the Convention*
1. To gain recognition, a delegate is requested to rise, address the chair, give her name and Auxiliary.
 2. No delegate shall speak more than twice on the same subject, and is limited to two minutes each time.
 3. Reports shall not be read from Auxiliaries which are not represented by delegates but shall be filed with the Secretary.
 4. All original motions or resolutions shall be made by submitting two copies, one to the Resolutions Committee and one to the Recording Secretary.
 5. Reports of delegates and district managers are limited to three minutes.
 6. No one is entitled to vote before she is registered. Whispering conversations greatly retard the business of a meeting.

PLEASE BE PROMPT. Meetings will begin promptly at the time stated in program.

(Continued from page 194)
 Dinner was served and plans made for the staff of the DeKalb County Clinic.

DR. W. W. MERIWETHER, Macon, has been appointed Macon city physician to succeed Dr. Paul S. Kemp, resigned.

DR. WILLIAM D. WILSON, formerly of Marietta, has removed to Savannah and opened offices at 319 Abercorn Street for the practice of general surgery.

DR. EUGENE L. WARD announces his association with Dr. Clarence G. Butler in the practice of diseases of the eye, ear, nose and throat, with offices at 15 North Green Street, Gainesville.

DR. JULIAN G. RILEY announces that Dr. George F. Archer is associated with him in the practice of surgery and gynecology, Suite 914-917 Grant Building, Atlanta.

THE BIBB COUNTY MEDICAL SOCIETY met at Ridley Hall, Macon, February 20. Dr. Max Mass spoke on "Primary and Secondary Bone Tumors and Metastases."

DR. W. P. RHYNE, Albany, spoke before a meeting of the Albany Kiwanis Club on "Poliomyelitis," January 24.

DR. BERT H. MALONE, State Department of Public Health, showed a moving picture on venereal diseases at a meeting of the Claxton Parent-Teacher Association, January 21, and then talked on "Poliomyelitis."

DR. JNO. M. WALTON, formerly with the Coleman Sanitarium, Eastman, has been assigned to duty as epidemiologist in charge of the venereal division of the Atlanta Health Department.

DR. FRANK K. BOLAND, Atlanta, has been re-elected president of the Atlanta Historical Society.

DR. M. E. WINCHESTER, Brunswick, Glynn County Commissioner of Health, spoke before a meeting of the Young Men's Club at the General Oglethorpe Hotel, Savannah, on "Poliomyelitis," January 22.

DR. L. A. BAILEY, Milledgeville, has been at Bellevue Hospital, New York City, for several weeks taking post-graduate work.

THE TWENTIETH ANNUAL MEETING of the Surgical Association of the Atlanta and West Point Railroad Company, The Western Railway of Alabama and the Georgia Railroad, met at the Biltmore Hotel, Atlanta, March 21. Titles of papers on the scientific program were: "Suggestions for Care of Eye Injuries," Dr. Hugh M. Lokey, Atlanta; "Abdominal Injuries," Dr. Wadley R. Glenn, Atlanta; "Medicolegal Aspects of Railroad Surgeons," Mr. Miles W. Lewis, Atty., Greensboro, district counsel, Georgia Railroad, guest speaker; "Fractures of the Spine," Dr. P. Y. Donald, Selma, Ala.; "Internal Fixation of the Hip-Martin Method," Dr. W. Roger Brewster, New Orleans, La., assistant professor clinical medicine, Tulane University; "Practical Handling of Fractures by Local Surgeons," Doctors Lawson Thornton and Calvin Sandison, Atlanta; "Syphilis of the Nervous System from an Industrial Standpoint," Dr. Richard Wilson, Atlanta; "Observations on Physical Causes for Retirement of Railroad Employees," Dr. Glenn I. Jones, Washington, D. C., chief surgeon, Southern Railway System; "Sulfanilamide in Urogenital Infections," Dr. Montague L. Boyd, Atlanta; "Uses of Drugs, Old and New, in Circulatory Diseases," Dr. Arthur J. Merrill, Atlanta. Dr. J. R. Garner and Dr. John P. Garner, both of Atlanta, chief surgeon and assistant chief surgeon, respectively, will be hosts at a luncheon. Luncheon speaker, Dr. Eugene E. Murphey, Augusta. Members of the Executive Board are: Dr. J. R. Garner, Dr. Montague L. Boyd, Dr. Carter Smith, Dr. J. C. Blalock, Dr. John P. Garner, Dr. Calvin Sandison, Dr. Hugh M. Lokey and Dr. R. H. Fike, all of Atlanta.

DR. C. STEDMAN GLISSON, JR., announces the opening of his office at 157 Forrest Avenue, N. E., Atlanta, for the practice of obstetrics and gynecology.

DR. CHAS. H. RICHARDSON, Macon, spoke before a meeting of the Woman's Auxiliary to the Bibb County

Medical Society on the "American Medical Association versus Socialized Medicine," February 13.

DR. CHAMP H. HOLMES, Atlanta, was elected president of the Atlanta Tuberculosis Association, February 15. He is past president of the American College of Chest Physicians. Dr. A. Worth Hobby was appointed chairman of the medical staff.

DR. BEN H. CLIFTON, Atlanta, has been elected president of the visiting staff at Grady Hospital; Dr. Carl C. Carver, vice president; and Dr. Jesse York, secretary.

THE WARE COUNTY MEDICAL SOCIETY met at Homer-ville on February 7. Dr. H. G. Huey and Dr. R. A. Schanze were hosts at dinner served in the new Vocational Building.

THE FIFTH DISTRICT MEDICAL SOCIETY will meet at the Academy of Medicine, Atlanta, March 29, at 7:30 p.m. A buffet supper will be served at St. Luke's Tea Room, Peachtree and Linden, at 6 o'clock, with the Woman's Auxiliary in charge. Speakers will be Dr. C. E. Rushin, Atlanta, president of the Fulton County Medical Society; Dr. Wm. H. Myers, Savannah, president of the Medical Association of Georgia; Dr. Lloyd F. Carver, New York City, whose subject will be "Lymphomas," and Dr. Adrian Lambert, Jr., New York City, who will speak on "Surgery in Diseases of the Chest." All physicians and their wives are invited to attend this meeting.

THE MONTHLY STAFF MEETING of Emory University Hospital, Emory University, was held on March 4. Dr. K. C. Rice reported a case, "Carcinoma of Splenic Flexure of Colon"; Dr. Gene Nardin and Dr. J. D. Martin, "Thrombosis of Superior Mesenteric Artery"; Dr. Stewart R. Roberts, "Angina Pectoris, Organic Heart Disease and Hypertension Associated with Herniation of the Stomach into Left Pleural Cavity."

COUNTIES REPORTING FOR 1940

Macon County Medical Society

The Macon County Medical Society announces the following officers for 1940:

President—S. L. Harp, Marshallville

Secretary-Treasurer—Thomas M. Adams, Montezuma

Cherokee-Pickens Counties Medical Society

The Cherokee-Pickens Counties Medical Society announces the following officers for 1940:

President—G. G. Robinson, Tate

Vice President—T. J. Vansant, Woodstock

Secretary-Treasurer—Charles R. Andrews, Jr., Canton

Delegate—C. J. Roper, Jasper

Alternate Delegate—Chas. R. Andrews, Jr., Canton

Taylor County Medical Society

The Taylor County Medical Society announces the following officers for 1940:

President—Lewis Beason, Butler

Vice President—S. H. Bryan, Reynolds

Secretary-Treasurer—R. C. Montgomery, Butler

Delegate—F. H. Sams, Reynolds

Clayton-Fayette Counties Medical Society

The Clayton-Fayette Counties Medical Society announces the following officers for 1940:

President—J. R. Wallis, Lovejoy

Vice President—Y. R. Coleman, Jonesboro
 Secretary-Treasurer—T. J. Busey, Fayetteville
 Delegate—Y. R. Coleman, Jonesboro

Gordon County Medical Society

The Gordon County Medical Society announces the following officers for 1940:

President—M. A. Acree, Calhoun
 Vice President—W. R. Barnett, Calhoun
 Secretary-Treasurer—W. D. Hall, Calhoun
 Delegate—W. D. Hall, Calhoun
 Alternate Delegate—R. D. Walter, Calhoun

Tri Society-Calhoun, Early and Miller Counties

The Tri Society announces the following officers for 1940:

President—J. G. Standifer, Blakely
 Vice-President—S. P. Holland, Blakely
 Secretary-Treasurer—W. H. Wall, Blakely
 Delegate—C. K. Sharp, Arlington
 Alternate Delegate—W. O. Shepard, Bluffton

Elbert County Medical Society

The Elbert County Medical Society announces the following officers for 1940:

President—W. A. Johnson, Elberton
 Vice President—A. C. Smith, Elberton
 Secretary-Treasurer—A. S. Johnson, Elberton
 Delegate—D. N. Thompson, Elberton
 Alternate Delegate—D. V. Bailey, Elberton

Jenkins County Medical Society

The Jenkins County Medical Society announces the following officers for 1940:

President—Q. A. Mulkey, Millen
 Vice President—I. S. Giddens, Millen
 Secretary-Treasurer—J. J. Folk, Millen
 Delegate—A. P. Mulkey, Millen
 Alternate Delegate—C. Thompson, Millen

Jefferson County Medical Society

The Jefferson County Medical Society announces the following officers for 1940:

President—S. T. R. Revell, Louisville
 Vice President—C. Roy Williams, Wadley
 Secretary-Treasurer—S. C. Ketchin, Louisville
 Delegate—S. T. R. Revell, Louisville
 Alternate Delegate—C. Roy Williams, Wadley

Washington County Medical Society

The Washington County Medical Society announces the following officers for 1940:

President—N. Overby, Sandersville
 Vice President—R. L. Taylor, Davisboro
 Secretary-Treasurer—Emory G. Newsome, Sandersville
 Delegate—J. R. Burdett, Tennille
 Alternate Delegate—T. C. Vickers, Harrison

Crisp County Medical Society

The Crisp County Medical Society announces the following officers for 1940:

President—Charles Adams, Cordele
 Vice President—H. J. Williams, Cordele
 Secretary-Treasurer—L. O. Wootten, Cordele
 Delegate—E. S. Armstrong, Cordele
 Alternate Delegate—C. E. McArthur, Cordele

Haralson County Medical Society

The Haralson County Medical Society announces the following officers for 1940:

President—E. F. Sanford, Buchanan
 Vice President—C. W. Downey, Tallapoosa
 Secretary-Treasurer—C. H. Allen, Bremen
 Delegate—C. W. Downey, Tallapoosa
 Alternate Delegate—O. D. King, Bremen

Hart County Medical Society

The Hart County Medical Society announces the following officers for 1940:

President—A. O. Meredith, Hartwell
 Vice President—H. E. Teasley, Hartwell
 Secretary-Treasurer—G. T. Harper, Dewy Rose
 Delegate—W. E. McCurry, Hartwell

Franklin County Medical Society

The Franklin County Medical Society announces the following officers for 1940:

President—Stewart D. Brown, Royston
 Secretary-Treasurer—B. T. Smith, Carnesville
 Delegate—Stewart D. Brown, Royston
 Alternate Delegate—E. T. Pool, Lavonia

South Georgia Medical Society

(Berrien, Clinch, Cook, Echols, Lanier and Lowndes Counties)

The South Georgia Medical Society announces the following officers for 1940:

President—T. Conrad Williams, Valdosta
 Vice President—W. W. Turner, Nashville
 Secretary-Treasurer—F. G. Eldridge, Valdosta
 Delegate—Frank Bird, Valdosta
 Alternate Delegate—P. H. Askew, Jr., Nashville

Henry County Medical Society

The Henry County Medical Society announces the following officers for 1940:

President—H. C. Ellis, McDonough
 Vice President—R. L. Crawford, Locust Grove
 Secretary-Treasurer—E. G. Colvin, Locust Grove
 Delegate—R. V. Brandon, McDonough

OBITUARY

Dr. Benjamin Walter Greene, Macon; member; University of Georgia School of Medicine, 1912; aged 54; died of heart disease on February 5, 1940. He was a native of Jones county and received his collegiate education at Mercer University, Macon. Dr. Greene began practice in Macon and made his permanent home there. He was one time president of the Sixth District Medical Society, member of the Masons, Shrine, and the Baptist church. Surviving him are his widow, two daughters, Mrs. Campbell Dasher, St. Petersburg, Fla., and Miss Katherine Greene, Macon. Elder A. J. Banks and Rev. Reese Griffin officiated at the funeral services conducted at the Cherokee Heights Methodist church. Burial was in Rose Hill cemetery.

Dr. William P. Leonard, Talbotton; member; Atlanta College of Physicians and Surgeons, Atlanta, 1900; aged 64; died suddenly at his home on January 27.

1940. He was born and reared in Talbot county. His forefathers were pioneers in the settlement and early improvements made in Talbot county. Dr. Leonard was for many years county physician, local surgeon for the A. B. & C. Railroad and the Central of Georgia Railway, director of the Peoples Bank and a member of the Methodist church. Funeral services were conducted at the residence. Burial was in Oak Hill cemetery.

Dr. John Charles McKinney, Athens; member; University of the South Medical Department, Sewanee, Tenn., 1898; aged 71; died in a private hospital on January 31, 1940. He was a native of Hall county and received his literary education at the North Georgia College at Dahlonega. Dr. McKinney practiced in Athens for thirty-six years. He took a number of post-graduate courses and was recognized as being thoroughly efficient in the treatment of diseases of the eye, ear, nose and throat. Dr. McKinney was one time chairman of the Athens Board of Health. He was a member of the Clarke County Medical Society, American Medical Association, and the First Baptist church. Surviving him are two daughters, Mrs. Walter L. Doolittle, Athens, and Mrs. John R. Cain, Montgomery, Ala. Dr. J. C. Wilkinson officiated at the funeral services conducted at the First Baptist church. Interment was in Pleasant Hill cemetery.

Dr. Morgan P. Bates, Ramhurst; member; Chattanooga Medical College, Chattanooga, Tenn., 1894; aged 78; died on January 30, 1940. He was a well-known and successful practitioner of Murray county. Dr. Bates began practice at Ramhurst and served that community during his entire professional career. He was held in high esteem by hundreds of friends. He was a member of the F. & A. M., and Baptist church. Surviving him are his widow, one daughter, Mrs. Wm. A. Ingram, Cartersville. Funeral services were conducted at Mt. Pisgah church.

Dr. Benjamin Harvey Hill Ward, Atlanta; Atlanta School of Medicine, Atlanta, 1908; aged 55; died on January 22, 1940. He received his collegiate education at Emory College, Oxford, Ga. Dr. Ward practiced continuously after he graduated in medicine until disabled by ill health. Surviving him are his widow, two daughters, Miss Mable Ward and Mrs. Alton J. Manning; three sons, Dr. Cleve Ward, Harvey Ward and Artemus Ward. Rev. H. C. Hale officiated at the funeral services conducted at the chapel of Harry G. Poole. Burial was in the Lincolnton cemetery.

Dr. William Bowers Watts, Sr., Atlanta; University of Georgia School of Medicine, Augusta, 1889; aged 75; died at his home on January 20, 1940. He was a native of Macon county. He was charitable and it has been claimed that he never refused to make a call. Dr. Watts began practice in Dooly county. After he practiced for a number of years at Byromville, he moved to Atlanta. He was a member of the F. & A. M. and St. Paul Methodist church. Surviving him are his widow, three daughters, Mrs. D. A. White, Mrs. C. R. Gaines and Miss

Ella Watts, all of Atlanta; three sons, Dr. W. B. Watts, Jr., Miami, Ariz.; Norton and Landon M. Watts, both of Atlanta. Rev. J. Lee Allgood officiated at the funeral services conducted at Spring Hill chapel. Interment was in Magnolia cemetery.

Dr. Singleton Starr Smith, Athens; member; Emory University School of Medicine, Atlanta, 1892; aged 71; died at his home on February 18, 1940, after a long illness. He was a native of Newton county. Dr. Smith practiced medicine in Newton county for two years, then removed to Watkinsville, where he practiced for eighteen years; then he moved to Athens where he practiced until disabled by ill health. Dr. Smith endeared himself to his acquaintances and rose to high rank as a successful practitioner. He limited his practice to obstetrics and gynecology. Dr. Smith was a member of the Clarke County Medical Society, American Medical Association and the First Methodist church, and filled several appointments on the Committee for the Study of Maternal Mortality and Infant Deaths, sponsored by the Medical Association of Georgia. Surviving him are his widow, five daughters, Mrs. W. M. Avera, Mrs. D. D. Quillian, Misses Martha and Ann Smith, all of Athens, and Miss Louise Smith of Montgomery, Ala.; one son, Starr Smith, Augusta. Dr. E. L. Hill and Rev. Perry Swan officiated at the funeral services conducted at the First Methodist church. Interment was in Oconee Hill cemetery.

Dr. Thomas Jefferson Crawford, Atlanta; Emory University School of Medicine, Emory University, 1886; aged 82; died on February 12, 1940, of heart disease. He was a native of Shiloh. Dr. Crawford was actively engaged in the practice of medicine until five years ago when he retired. He had many friends and was an excellent physician. Surviving him are his widow, four daughters: Mrs. H. H. Steele, Louisville, Ky.; Mrs. B. C. Hay, Misses Adele and Martha Crawford, all of Atlanta. Dr. Luther Bridges officiated at the funeral services conducted at the chapel of Awtry & Lowndes. Burial was in Crestlawn cemetery.

Dr. John F. Freeman, Atlanta; member; Chattanooga Medical College, Chattanooga, Tenn., 1892; aged 71; died at his home on February 28, 1940. He was a native of old Campbell county and moved to Atlanta a few years after he graduated in medicine. He practiced for more than forty years and was held in high esteem by hundreds of patients and friends. Dr. Freeman was a member of the Fulton County Medical Society and the Warren A. Candler Methodist church. Surviving him are four daughters: Mrs. F. C. Groover, Mrs. Lyman L. Smith, Mrs. Roscoe G. Gann, and Mrs. Harley D. Brown; two sons, Conway H. and John F. Freeman, Jr. Dr. Ellis A. Fuller and Rev. Herman Allison officiated at the funeral services conducted at the Warren A. Candler Methodist church. Interment was in Crestlawn cemetery.

Dr. George Richard Luke, Ashburn; Atlanta School of Medicine, Atlanta; 1906; aged 57; died at his home on

February 19, 1940. He was a life long resident of Turner county. Dr. Luke was energetic and was active in his practice at all times during his career. He was a friend to everyone. Surviving him are his widow, three daughters, Miss Edna Muriel Luke, Miss Elizabeth Luke, and Miss Emily Luke; four sons, George Richard Luke, Felder Luke, Marcus Luke and Jimmy Luke. Rev. D. D. McCraw and Rev. O. C. Cooper officiated at the funeral services conducted at the Ashburn Baptist church. Burial was in Rose Hill cemetery.

ACUTE APPENDICITIS (UNRUPTURED) OCCURRING IN YEAR-OLD INFANT*†

HOWARD J. MORRISON, M.D.

LAWRENCE LEE, M.D.

Savannah

We wish to present a case report of acute appendicitis in a one-year-old male infant. Recent textbooks¹ call attention to infants being rarely affected. The appendix being unruptured in our patient can only be due to the infant's resistance, as he was not seen until 45 hours after the onset of symptoms. The clinical history and physical findings revealed the cardinal findings of acute appendicitis as they occur in older children or adults, i.e., pain, nausea, temperature elevation, vomiting and abdominal tenderness associated with muscle spasm.

Our case is unusual in that (1) the infant continued to eat and relish food after the onset of symptoms, and (2) was able to rest (sleep) at long intervals without sedatives. The pitfall of an apparent associated injury is also presented as part of a history that must always be discounted.

Case Report

Chief Complaint: Fever, fretfulness and pain on motion of right leg for two days.

Present Illness: Infant was well upon going out to park with the nurse on Tuesday afternoon, May 10, 1938. When the infant returned from the park he cried when his right leg was moved. The mother elicited a history from the nurse of the infant wrenching his leg while in the park. Leg and thigh massaged and the infant was given a dose of milk of magnesia, which he vomited. Mother thought he may have had some temperature elevation but it was not taken. Bowel movements were normal before the milk of magnesia was given. Wednesday afternoon, the infant's temperature

was 102 degrees F. and an enema was given as well as one grain of aspirin. Infant remained fretful from Tuesday afternoon until Thursday but would sleep for long periods and he did not refuse the food which was offered. He was comfortable only when held in his mother's arms and had to be put to sleep in this manner. He was accustomed to going to sleep by himself. When I (H. J. M.) first saw the infant at one o'clock Thursday afternoon, May 12, he was asleep. The mother stated that the welfare nurse had been in that morning and advised calling a physician because the infant's throat was inflamed. I did not awaken the infant but returned at two-forty o'clock the same afternoon when he was still asleep.

Family History: Mother and father, ages twenty-six years, living and in excellent health.

Past Medical History: No contagious diseases. Very few colds. Immunized against diphtheria and whooping cough at six and ten months of age.

Birth and Feeding History: First child, born May 15, 1937, birth weight eight pounds and nine ounces. Mother had normal pregnancy and normal delivery. Breast-fed entirely for six months. Orange juice started at three weeks of age. Cod liver oil started at six weeks of age. Cereal at three months. Egg yolk at four months. Vegetables and vegetable soups (pureed) at five months. Jello, raw and cooked fruits at six months. Custards and junket at eight months. Bacon at nine months. Custard ice cream at ten months. The infant showed allergic manifestations to egg at four months of age and this persisted even when custard was offered.

Physical Examination: Physical examination revealed a husky male infant weighing approximately twenty-five pounds. When awakened he cried continuously, probably from fright. Temperature was 102 degrees F. Ears, eyes, nose and throat were normal. Lungs were clear. No heart murmur. Abdomen was soft over the entire left side but there was a definite muscle spasm when pressure was made over the right abdomen from the level of the umbilicus down. The infant would draw his right leg to flex on the abdomen when pressure was made on the right lower abdomen. The reflexes were all normally present.

Comment: The past history of urinalysis being normal, of the infant never passing any blood by rectum and the absence of an abdominal mass tended to rule out two surgical conditions of the abdomen which had to be considered along with acute appendicitis, namely, acute intussusception and a Meckel's diverticulum. Catheterized specimen of urine showed no pus nor albumin but had a positive test for diacetic acid. Reaction of urine, acid. White blood count 13,350; 69 per cent polymorphonuclear leukocytes; 17 per cent small monocytes and 14 per cent large monocytes. A tentative diagnosis of acute appendicitis, unruptured, was made and the patient was operated upon by one of us. (L.L.)

Description of Operation: Begun at five-twenty o'clock in the afternoon on May 12, 1938, and ended at five-fifty-five o'clock. Median laparotomy; appendix in right iliac fossa, acutely inflamed and covered with fibrin and lymph, as was the cecum. Cecum, appendix and adher-

*Pediatric service, Telfair Hospital for Women and Children.

†Read before the Georgia Medical Society in March, 1939.

ent omentum formed a palpable mass. Appendix removed and wound healed by primary union. There was a certain amount of redness around the stitch holes which soon disappeared.

Clinical Course: Infant had some elevation of temperature following his operation, for six days. On the eighth day his temperature was normal and has remained normal since. Other than post-operative nausea, convalescence was uneventful. Four days after operation (May 16), urine showed an increased number of pus cells with no albumin and this finding was not thought significant. It was thought that this could be accounted for by the inflammation in the pelvis occurring during and before the appendix was removed. Rectal examination on May 17 was negative. Infant's health has been perfect since dismissal from the hospital.

REFERENCES

1. "The Diseases of Infants and Children": Griffith-Mitchell, Second edition, 1937.
- "Practice of Pediatrics": Joseph Brennemann, Volume III, 1938.
- "Diseases of Infancy and Childhood": Holt and Howland, Edited by Holt, Jr., and McIntosh.

BOOK REVIEW

Atlas of Surgical Operations. by Elliott C. Cutler, Moseley Professor of Surgery, Harvard University, and Robert Zollinger, Assistant Professor of Surgery, Harvard University. First Edition. 175 Pages with 84 Plates. Price \$8.00. Published New York: The Macmillan Co., 1939.

In the first chapter the authors state, "Asepsis, hemostasis and gentleness to tissues are the bases of the surgeons' art." This statement is well to be placed as the initial one in any book of surgical technic.

The purpose of the book is to give concise and descriptive information for interns and residents. It is, therefore, extremely valuable not only to beginners in surgery but also to individuals who wish to review various procedures of an operation. The Atlas is not a complete one but only the more important surgical operations are described.

From a historic standpoint no reference is made of the older methods. The procedures that are described are those which have been found to be of greatest benefit to the authors. This is of value to the beginners because it lessens certain confusion which would otherwise exist. One interested in a complete study of the various procedures must consult other sources.

Although the book is primarily an Atlas, there is sufficient accompanying description on each plate to satisfactorily explain the details of the procedures. Pre-operative and postoperative treatment is given, but not in any great detail.

The technics which are described are all based on recognized and sound principles which have been more or less standardized and adopted in most of the teaching institutions. The book will be of inestimable value not only to the instructors, but also to the students of surgery.

J. D. MARTIN, JR., M.D.

COFFEE COUNTY MEDICAL SOCIETY

The Coffee County Medical Society held its monthly meeting on Wednesday evening, January 31, 1940, at Steve's Cafe and later adjourned to Dr. T. H. Clark's office for the scientific program.

Those present were Doctors Clark, Johnston, Johnson, Shirley, Durden, Wallace, Goodwin, Harper, Turrentine, Goldman and Shellhouse.

Dr. Fussell, a new physician in Douglas, came to the meeting and he was invited to become a member of the society.

The minutes of the previous meeting were read and approved.

Two letters from the State Secretary were read and all members present were urged to pay their annual State and county dues.

The following resolution was read before the Society:

Whereas, The said insurance companies operating in this county are showing variations in the fees paid for medical examinations,

Whereas, all medical examinations for insurance are the same, regardless of the amount of insurance taken by the applicant.

Therefore, the members of the Coffee County Medical Society this day, Jan. 31, 1940, do hereby agree that a standard of not less than \$5.00 shall be charged for all examinations for life insurance.

Be it further resolved, That a copy of this resolution be sent to all insurance companies soliciting insurance in the county.

This resolution was discussed and Dr. Sage Harper made a motion that the society adopt it, and Dr. Goodwin seconded the motion. It was unanimously adopted.

The president appointed the Secretary, Dr. Harper and Dr. Shellhouse as a committee to arrange and schedule the program for the year.

Dr. George W. Shirley was asked by the President to give a paper at the next meeting. The subject to be on Rickettsia disease in the lower animal.

The President had charge of the program and he in turn gave a very interesting paper on "The Habits and Beliefs of the Natives of Jamaica" and his experiences in the practice of medicine in that country.

Adjourned until February 28, 1940.

ROY L. JOHNSON, M.D.,
Secretary-Treasurer.

METRAZOL FOR ACUTE ALCOHOLISM

The Psychiatric Division of Bellevue Hospital has been studying alcoholism and the many problems it creates for sometime. Acute alcoholism presents two types of difficult clinical problems—the disturbed, resistive, violent alcoholic patient, or the patient in alcoholic coma. Ordinarily, the former group is treated with sedatives, restraint, and seclusion, and the latter with various stimulants. Because the number of alcoholics admitted to Bellevue is very large, any method which facilitates the management of such patients is desirable. Metrazol was therefore tried in a group of 50 patients, 34 of whom were in an excited state and 16 of whom were comatose.

... "Immediately after admission such patients were taken to the emergency room and received 5 cc. of 10 per cent solution of metrazol intravenously, the rate of injection being about 30 seconds for the 5 cc. We found that in a person narcotized with alcohol, this speed of injection failed to induce a general convulsion. In some individuals, twitching of the face appeared. We refer to this dose time factor as a 'subconvulsive dose.' . . .

... "After the injection the patient was kept in the emergency room for a short time and then sent to the ward best suited for his clinical condition. Sedation and other treatment were ordered as indicated. It was found, however, that a large number of the excited alcoholics would quiet down in two to ten minutes after the injection and no further special treatment would be necessary. Comatose patients frequently regained consciousness in five to thirty minutes and were able to give an adequate admission history." . . .

In discussing their results these authors state the administration of Metrazol to acute alcoholics "was followed by a marked improvement in the clinical state. Such improvement manifested itself in the arousal of the comatose cases, and sedation of the excited group. This improvement was not due to any changes of the concentration of alcohol in the blood. It is suggested that this apparent biphasic effect of metrazol is due to a direct stimulation of the narcotized cerebral cortex. In the mildly narcotized, or agitated group, the improvement is ascribed to a stimulation of the depressed inhibitory centers. Improvement in comatose cases is considered to be due to general stimulation of the central nervous system." . . . (Orenstein, Leo L.; Bowman, Karl M.; Kagan, Julia R.; and Goldfarb, Walter—"Use of Metrazol in the Treatment of Acute Alcoholism." *Am. J. of Psychiatry*, 96:589 (Nov., 1939).

Metrazol is a product of the Bilhuber-Knoll Corp., Orange, New Jersey.

THE AMEBIASIS PROBLEM

A study made by the U. S. Medical Corps, covering every section of the United States, shows that between 5 and 10 per cent of the people probably harbor *Endamoeba histolytica* (Kagy, *Bull. Hyg.*, 14:746, 1939). Clinically, the persons infected may be divided into four groups, in which symptoms vary from none appreciable (so-called healthy carriers) to those accompanying acute or chronic amebic dysentery. Food handling is held to be the most important mode of transmission, but dubious water supplies, night soil used as fertilizer, and fly droppings are other factors which may result in infection.

Carbarsone, Lilly (p-Carbamino Phenyl-arsonic Acid) is amebicidal in vitro at 1:4,000 and has a marked degree of efficacy in amebiasis in doses which, if conservatively utilized, are relatively nontoxic. Its administration is followed by symptomatic relief, clinical improvement, and consistent failure to find cysts or motile amebas in the stools on very frequent and careful examinations. Vaginal suppositories containing 2 grains of Carbarsone, Lilly, have given very good results in the treatment of *Trichomonas vaginalis* vaginitis in the hands of numerous observers.

RADIOLOGISTS, HOSPITALS AND SURGEONS

Once there was a boy who cried, "Wolf!" so often when no wolf came that the men who heard him paid no attention. Then one day the wolf came and the men were sorry they had not heeded the boy's warning.

For several years radiologists have warned surgeons, internists, obstetricians, urologists, orthopedists, *et al.*, that hospitals would one day dominate all medicine if a few specialties were sacrificed to economic convenience. If hospitals could practice radiology, it has been said, they could likewise practice other specialties. If radiology is included as a hospital benefit in group hospitalization plans, there is nothing to prevent the inclusion later of other services.

Radiologists have appealed for help from their colleagues and warned of dangerous consequences to all medicine if such help were not forthcoming. Sometimes such help has not been forthcoming.

Well, here comes the wolf!

David B. Skillman is Chairman of the Trustee Section of the American Hospital Association. He is a hospital administrator from Easton, Pennsylvania. At the recent annual meeting of the American Hospital Association in Toronto, Canada, Mr. Skillman delivered himself of a paper on medical and hospital economics.

The following is quoted from a report which appeared in *Modern Medicine* for November, 1939:

"Salaries for Doctors.—A proposal that hospitals establish faculties of doctors with definite salaries has been forwarded as a means to combat socialized medicine. Mr. David B. Skillman, Chairman of the Trustee Section of the American Hospital Association, would fix the salaries starting at \$1,800 to \$2,000 a year for young, unmarried practitioners, and advancing to \$10,000 or \$12,000 for men of advanced standing.

"The hospitals would submit their bills according to a published scale of prices. The plan is merely an expansion of the group hospitalization plan to take in medicine, and would eliminate state, county, and federal support."

This to combat socialized medicine, says Mr. Skillman. Indeed! One might say also that Finland could have avoided invasion by the Soviets if she had asked for military occupation by the Nazis. Individual determination and freedom are sacrificed one way or the other.—*Radiology*, Feb., 1940.

TWO ENDS

The Lord gave us two ends.

One to sit on and the other to think with.

A man's success depends upon which end he uses most.

It is a case of heads you win, or tails you lose.

Take your choice.

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SIMPLE PROCTOLOGIC PROCEDURES*

C. E. HALL, JR., M.D.
Atlanta

The majority of patients suffering disorders of the rectum can be successfully treated by comparatively simple procedures—procedures which may be carried out by office methods. The object of this paper is to present to you methods of treatment designed to give the maximum results with the least amount of discomfort, the least amount of inconvenience and, incidentally, the least amount of expense to the patient. The following topics will be discussed in order:

1. Hemorrhoids—Internal and External.
2. Fissure-in-Ano—Acute and Chronic.
3. Abscess, Fistula, and Cryptitis.
4. A simple method of preventing certain types of proctologic disorders.

Hemorrhoids: Few people go through life without at some time experiencing this common rectal condition, the reason for this being that the primary cause of internal hemorrhoids is anatomic. The rectal veins are devoid of valves, and the erect posture results in undue amount of back-pressure upon the vein walls, causing them to gradually dilate, forming hemorrhoidal tumors.

The injection treatment of internal hemorrhoids, although known since 1876, has been greatly improved in recent years, and in experienced hands produces excellent results in the majority of cases with very little discomfort and inconvenience to the patient. Many different types of solutions are used, with varying technics. The following is one of the simplest and most effective methods, using a solution of five per cent phenol in vegetable oil, injected by the submucous technic:

With the patient in the left lateral or Sims' position, the hemorrhoidal area is exposed by the use of an anoscope of the Brinkerhoff or Kelley type. The first injection is made just beneath the mucosa at the upper pole of the hemorrhoid. The amount of solution injected depends upon the size of the hemorrhoid and the redundancy of the mucosa; this varies from one-half to three and a half cubic centimeters. The rectum is divided into four quadrants, and only one quadrant is treated at a sitting. Injections are made at intervals of about three days until all four quadrants have been treated. A second round of injections is then begun, at which time the injection is made at a point over the center of the hemorrhoid. When the series of injections is completed each quadrant of the rectum will have received two treatments, making a total of eight injections. This amount of treatment is usually sufficient to procure the desired results in the majority of cases. At the end of about one year's time a third round of injections may be given. This will greatly lessen the incidence of recurrences.

Most patients with internal hemorrhoids are amenable to the injection method of treatment. If any complications are present, such as fissure, abscess, fistula or cryptitis, the complications should be treated first and the hemorrhoids injected later. Large fibrotic hemorrhoids of long standing are best treated by hemorrhoidectomy; however, even these patients can be benefited a great deal by injections.

External hemorrhoids are of two types: *thrombotic* and *cutaneous*. Simple surgical excision is the only satisfactory method of treatment; however, this may be easily done in the office under local anesthesia. The use of local anesthetics of prolonged action has greatly lessened the postoperative pain in

*Read before the Medical Association of Georgia, Atlanta, April 28, 1939

these patients. The involved area is infiltrated with a small amount of one per cent novocain, after which a small amount of one to one thousand nupercain solution is injected. The novocain gives immediate anesthesia, and the nupercain prolonged anesthesia. The administration of barbiturates before the employment of these anesthetic agents will minimize the danger of toxic reactions, and it is advisable to give the patient one and a half grains of nembutal or some similar preparation about thirty minutes before the operation is begun. All skin covering a thrombotic hemorrhoid should be freely excised to prevent refilling. Sutures are undesirable, although occasionally a bleeder will have to be clamped and tied. Best results are obtained when the wound is left wide open for free drainage. After-treatment consists of mineral oil, daily applications of mild antiseptics and frequent hot Sitz baths.

Fissure-in-Ano: The treatment of anal fissure depends entirely upon the pathologic changes present. All fissures within the grasp of the external sphincter muscle may be classified in two groups: the acute and the chronic.

The acute fissure is one of short duration, presenting no infection, induration, sentinel tab nor accompanying sinus. If not of more than forty-eight hours' duration this type of fissure may be successfully treated by injection of the involved area with a local anesthetic of prolonged action in an oil base. Of the several different preparations of this kind, benacol, a Seydel product discovered by Yeomans of New York, has proved most efficient in my experience. The involved area is first infiltrated with one per cent novocain, after which the anesthetic in oil is injected deeply beneath the fissure and into the posterior fibers of the sphincter muscle. Gentle massage after the injection insures even distribution of the anesthetic agent. The patient is immediately relieved of pain, and simple after-treatment, consisting of topical applications and hot Sitz baths, usually results in prompt healing of the fissure. The anesthesia from benacol lasts from four to ten days, and affords sufficient relaxation of the sphincter to allow

healing of the acute type of uncomplicated fissure.

The chronic type of anal fissure; that is, one of more than forty-eight hours' duration, or one presenting purulent infection, a sentinel skin tab, induration, or an accompanying sinus or anal crypt, will require a surgical procedure for satisfactory results to be obtained. This procedure may be done in the office in many cases; however, needless to say, one must exercise due caution in selecting these cases from a psychologic standpoint.

The involved area is thoroughly infiltrated with one per cent novocain and one to one thousand nupercain solution, after which a bivalve speculum is introduced into the rectum in order to obtain adequate exposure of the entire lesion. Any sinus that may be found with a hooked probe, together with the sentinel tab, if present, should be freely excised with the scissors. With a sharp scalpel an incision is then made in the longitudinal axis of the anal canal, through the center of the fissure, beginning at a point just proximal to the fissure and extending well beyond the anal sphincter for a distance of some one and a half to two and a half inches. The incision should sever the superficial fibers of the sphincter and should be gradually deepened after the skin margin is reached. Any overhanging edges of skin or mucous membrane are freely ablated. A small vaseline gauze pack is inserted into the wound and a firm anal pad applied. Hemorrhage is easily controlled by this type of dressing, and no sutures are used. The packing is removed on the following day and no further packing is inserted. The bowels are not confined, a movement being allowed the day after the operation. After-treatment consists of mineral oil, hot Sitz baths, topical applications, and after the third day, gentle dilatations with the gloved finger. The wound must be kept open, in order that healing may take place by granulation from the bottom up. With this method of treatment the patient rarely loses more than one or two days from his usual occupation, and healing is usually complete in from ten days to two weeks.

Abscess and Fistula: The great majority of abscesses of the perianal region originate in the anal crypts or in infected anal fissures. These para-anal abscesses should be freely drained as soon as the diagnosis is made. Temporizing with infections of the perirectal region simply allows rapid spread of the infection through the loose cellular tissues, resulting in widespread destruction with the formation of complicated fistulæ, frequently with multiple openings.

The para-anal abscess, if seen before extensive involvement has occurred, may be treated very successfully under local anesthesia. The skin over the abscess is thoroughly infiltrated with one per cent novocain, after which a free incision is made at right angles to the fibers of the external sphincter, extending from the anal orifice to a point well beyond the abscess cavity. A cross incision is then made at right angles to the first incision to insure that the wound will remain open for free drainage. Frequently the offending crypt can be located with a flexible probe passed gently through the incised abscess. If a crypt is found to connect with the abscess cavity, it should be excised immediately, as this will provide for better drainage and also prevent the formation of a fistula requiring subsequent operation. A small vaseline gauze pack is inserted to control hemorrhage, and is removed in about twelve hours. No further packing is used, as this would simply interfere with drainage and delay healing. The after-treatment consists of frequent hot Sitz baths, topical applications, and keeping the wound open with a gloved finger until healing by granulation is complete.

All rectal fistulas are preceded by abscesses, and since most of these abscesses originate in the anal crypts, the resulting fistulous tracts are usually superficial to the sphincter; this is particularly true if the abscess preceding the fistula was drained early and not allowed to burrow deeply into the loose tissues. Simple fistulas of this type can be easily excised under local anesthesia, as an office procedure. Certain complicated fistulas with multiple tracts, provided these tracts are superficial, can be successfully managed in this manner by

doing the operation in stages, excising only one tract at a time.

Frequently infected anal crypts are discovered before abscess formation has taken place. These infected crypts can be excised under local anesthesia, using a hook-shaped probe and excising them freely with scissors.

Case Report

The following case is presented to illustrate what can be accomplished by simple office procedures. The patient, a male sixty years of age, an accountant very active in business, presented a chief complaint of painful swelling at the anal margin of three days' duration, and a history of protruding internal hemorrhoids for several years. Examination revealed a para-anal abscess in the left anterior quadrant about six by six centimeters in size, and fairly large internal hemorrhoids. Under novocain anesthesia a free crucial incision was made and about one and a half ounces of foul-smelling colon bacillus pus evacuated. A flexible probe was gently passed through the incision and the offending anal crypt located in the left anterior quadrant of the anal canal. In order to prevent the necessity of a subsequent operation for fistula this crypt was excised with the scissors, and the wound lightly packed with vaseline gauze. A firm anal pad was applied and the patient allowed to go home in a taxi. The following day he was able to appear at the office for a dressing, after which he attended to some business matters at his own office. On the sixth postoperative day all infection had cleared up and he was given the first injection for internal hemorrhoids. On the fifteenth day the abscess cavity was entirely healed, and at the end of six weeks the injection treatment for hemorrhoids was completed. This patient had lost only one day from his business, had experienced no severe pain, and had been relieved of an abscess, a fistula and internal hemorrhoids.

Prevention of Congestive Disorders

Excluding abscesses, fistulas, cryptitis and specific infectious processes, most conditions of the rectum and sigmoid fall into a group that may be termed "congestive disorders," disorders which are due primarily to mechanical interference with the venous circulation through the portal system. Certainly hemorrhoids, which comprise nearly fifty per cent of proctologic conditions, are due primarily to this anatomic fact; and I believe that other conditions, such as proctitis, procto-colitis, and pruritus ani of non-infectious type, are markedly influenced by this factor. It is entirely possible that certain ulcerative conditions of the lower bowel, where no specific infectious process can be demonstrated, are due to venous stasis. We frequently see ulceration accompanying varicosities of the lower

extremities, and we know that these ulcers usually heal rapidly when the part is maintained in an elevated position. Isn't it reasonable to assume that these two conditions are analogous, and that circulatory disturbance is the primary factor in both instances? It has been proved beyond doubt that the reclining posture, with elevation of the hips, has a markedly beneficial influence on any congestive disorder of the lower bowel.

Due to the erect posture and the absence of valves in the rectal veins, the force of gravity exerts a constant pressure on the tributaries of the portal system, giving rise to various congestive disturbances. This constant back-pressure not only persists during the day, but in most cases continues at night during sleep; due to the fact that most people sleep on a soft bed that sinks in the middle, leaving the pelvic region at a lower level than the liver.

In order to provide a period of rest for the portal venous circulation, I believe that everyone should so arrange his sleeping posture that the pelvic region will be slightly elevated above the liver. This can easily be done by elevating the foot of the bed, or by elevating the hips by means of a pillow. I have recommended this simple measure to all patients with congestive disturbances of the lower bowel, and I am convinced that it is a definite aid in the treatment and in the prevention of recurrences in these patients.

DISCUSSION ON PAPER OF DR. C. E. HALL, JR.

Dr. Marion C. Pruitt (Atlanta): I am always interested in a discussion of anorectal diseases. Dr. Hall emphasized that the office procedure is a feature often neglected by many doctors, but he has carried this a little farther than I usually feel is safe, particularly in the treatment of fistula. From my experience the treatment of fistula is a more complicated procedure than can often well be handled in an office. Subcutaneous tracts which you can get a probe through easily and excise under local anesthesia I think are safe office procedures, but the majority of fistulae are not simple tracts and often you are unable to determine the extent of the tract at examination. When you have started the case in the office and find the tract extends beyond the anesthetized area, the patient is caused more discomfort while you extend the anesthetic, the operation is often

incomplete and the procedure is a more major problem than was anticipated in the beginning. For these reasons I think fistula is a hospital procedure, except in the direct simple tracts where one may almost be certain about the treatment in the beginning. One thing that I have learned from experience: Patients of weepy, soggy, local condition with long standing discomfort usually have a marked mixed infection. Direct smears from the lesion or mucous membrane of the anal canal shows an increase of the bacterial flora with often a predominance of streptococci. In these patients sulfanilamide given before the operation will give dryness and help clear up the soggy condition and minimize the amount of surgery to be done. Three or four days after operation sulfanilamide can be given again and you will see healing go along almost as simply as an uncomplicated lesion.

In connection with the treatment of hemorrhoids, I would like to state that only about 30 per cent of the internal hemorrhoids I see are without complications, or, to put it in a different way, I feel that only 30 per cent are suitable for injection treatment. In the case illustrated by Dr. Hall, he operated on an abscess and a week later started injection treatment of hemorrhoids. This has been one of the precautions I have tried to stay away from that is to say, in acute infections I like to clear up the infection before beginning injections of the hemorrhoids. This is a little precaution that will aid in preventing complications that might occur in the injection treatment of hemorrhoids.

Dr. Charles E. Hall, Jr. (Atlanta): In regard to the treatment of fistulae in the office, I stated that the superficial type could be successfully managed in this manner. I did not make any reference to treatment of complicated fistulae with deep tracts. I think that Dr. Pruitt must have misunderstood what I said.

As far as "weeping" chronic cases of long standing are concerned, it is my opinion that these cases are due to congestive disturbances rather than to infection, and I am in doubt as to the value of sulfanilamide in the treatment of such cases.

Dr. Pruitt stated that only about 30 per cent of the cases of internal hemorrhoids are suitable to the injection treatment. It is true that only about 30 per cent of the cases are uncomplicated; however, by treating all complications first, and then injecting the hemorrhoids later, it is found that about 75 per cent of the cases are amenable to this simpler method of treatment.

In regard to the case report that I made—the injection treatment was begun only after all infection from the abscess had cleared up. The patient was suffering considerable discomfort due to the prolapse of internal hemorrhoids, especially in the presence of the operative wound. This was the reason for beginning the injections as early as possible—to relieve the patient of this distressing condition. I had no fear of infection, as the injections consisted of a solution of 5 per cent phenol in vegetable oil, which will never produce infection under any condition.

ANESTHESIA IN RECTAL SURGERY*

A. M. PHILLIPS, M.D.
Macon

Diseases of the anus and rectum have been referred to in medical writings as far back as medical history is recorded, yet it has only been within the past few years that these conditions have received serious thought. More has been accomplished in proctologic procedures in the past twenty-five years than was accomplished in all previous medical history.

One of the greatest advances made in this field has been in anesthesia. It is within the memory of most of us when all operations for hemorrhoids were performed under ether anesthesia, with manual dilatation of the sphincter. This, of course, contributed materially to the postoperative discomfort of the patient. Ruptured blood vessels, damaged nerves, torn muscle fibers and edema of the tissue around the anal outlet caused an unnecessary amount of discomfort following the operation. Serious consequences, too frequent to mention, have also followed the rupture of the sphincter under forced dilatation and trauma.

In selecting the anesthetic to be used in any surgical procedure, whether rectal or otherwise, there are two main points to be considered. First, and most important, is the selection of an anesthetic most suitable from the patient's standpoint. A desirable anesthetic should be one that is not unpleasant to take, one that is safe and one which will produce a minimum of postoperative discomfort, such as nausea, vomiting and the usual after-effects that accompany ether anesthesia. Also to be considered is the anesthetic which will afford the least amount of postoperative pain. Second, we should select an anesthetic which will afford sufficient relaxation of the parts involved in order to facilitate good exposure without trauma and tissue injury. I know of nothing that will tax the patience of a surgeon more than the failure to secure complete anesthesia and relaxation.

No single anesthetic will be found suitable for all surgical procedures of the rectum, but I agree with some of the writers who state that 90 to 95 per cent of all rectal surgery can be accomplished under local anesthesia. Harry Bacon of Philadelphia states: "Local anesthesia can be used in rectal surgery on such conditions as internal and external hemorrhoids, prolapsus, polyps, fissures, simple fistula, inflamed crypts, skin tags, intra-anal ulcers, condylomas and papillæ." You will gather from this statement that the vast majority of rectal surgery can be done under local anesthesia. Bacon further states: "There are some conditions where a local anesthetic is contraindicated. These conditions are embedded foreign bodies, strictures, dermoid cysts, congenital anomalies and any condition where suppuration is present." I would like to emphasize one point and that is, never use a local anesthetic in scar tissue or a stricture. It will invariably lead to the formation of an abscess. To attempt to use a local anesthetic in an area of suppuration would be disastrous due to the spread of the infection.

For many years the most popular local anesthetic has been $\frac{1}{2}$ to 1 per cent procaine. So far as complete relaxation is concerned, novocain or procaine cannot be surpassed, but it has long been the object of research workers to find an anesthetic which would afford the complete relaxation obtained with procaine, one low in toxicity and one having a prolonged effect, this prolonged anesthesia being necessary to control the postoperative pain that usually follows rectal operations, especially hemorrhoidectomy.

Oil soluble anesthetics have been experimented with for the past decade and varying degrees of success have been reported by their users. In 1927, Yoemans, Gorsch and Mathesheimer first reported on the use of oil soluble anesthetics. Since that time numbers of these preparations have appeared on the market but drawbacks to all these have been found. Objections to their use have been: pooling of the solution, induration, infection and delayed healing.

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During the past two years a new local anesthetic, eucupin or isoamylhydrocupreine, has been placed on the market. The anesthesia produced is as complete as that of procaine but the action is much more prolonged and may last from three to seven days. This preparation is not related to procaine or cocaine but is a quinoline derivative.

I have used eucupin in my private practice for the past several months and have found it to be very satisfactory in most cases. By using this anesthetic, postoperative pain has been reduced to a minimum and it is rarely necessary to give opiates following an operation. Usually by the time the anesthetic effect has worn off, enough time has elapsed for the pain-producing reaction to have subsided.

Eucupin itself causes a burning discomfort on injection, and for that reason it has been combined with $\frac{1}{2}$ per cent novocain to do away with this discomfort and to give an immediate anesthesia.

One of the most important points observed in doing rectal work is the fact that a majority of patients are highly nervous. This condition is one of the most aggravating symptoms of rectal diseases of long standing. Due to this fact I rarely use a local anesthetic alone. Even though the operation be painless, the average patient anticipates pain and is unable to cooperate with the surgeon to the fullest extent. For this reason I employ ethylene gas as an adjunct to the local anesthetic. Ethylene is not unpleasant to take, affords practically no nausea or unpleasant after-effects, and due to its short duration the patient awakens a short time after operation.

Experimental work with eucupin has shown it to be of low toxicity, it is antiseptic and it does not delay healing whatsoever. This seems to furnish all the important qualifications that other anesthetics have failed to do.

My routine orders for the ordinary rectal operation are as follows:

Preliminary preparation done the night before operation. One hour prior to time of operation, $1\frac{1}{2}$ grains of penta-barbital sodium or nembutal is given by mouth; 15 minutes later, a routine hypo. of morphine gr. 1/6

with atropine sulphate gr. 1/150 is given. By the time the patient is carried to the operating room he is usually very drowsy and a few patients actually asleep. Ethylene gas is then administered and the area around the anal outlet and rectum is anesthetized with eucupin in the usual manner. About 7 to 10 cc. of eucupin solution are injected fan-wise into each of four points around the anus, anteriorly, posteriorly and laterally. Sufficient anesthesia is produced to give complete relaxation of the sphincter muscle without manual dilatation and trauma to the tissues. Good exposure is obtained without the danger attached to stretching of the muscles.

I have used this method of combined anesthesia for many months and I have found it to be more satisfactory than any other method. Different methods of anesthesia have their good points and their drawbacks and after using, at one time or other, practically all types, I have found the combined method most satisfactory in my own work.

It has not been my purpose in discussing this subject to bring to you anything new but to bring out some of the points that I think are important. In doing this I hope that I have made the operations on the rectum and anus easier procedures for the surgeons and, most of all, I hope that I have contributed something to the comfort and well being of the patient.

Conclusions

1. From the standpoint of the patient, an anesthetic producing a minimum amount of postoperative discomfort should be chosen.
2. From the standpoint of the surgeon, an anesthetic should be selected which produces a complete relaxation with good exposure.
3. An anesthetic that has a prolonged effect is to be desired.
4. An anesthetic that does not pool, is antiseptic and does not delay healing is to be desired.
5. Eucupin seems to furnish the above requirements.
6. Ninety to 95 per cent of all rectal operations can be performed under local anesthesia.
7. The combined ethylene and local anesthetics are used because the average patient is extremely nervous and anticipates pain.

DISCUSSION ON PAPER OF DR. A. M. PHILLIPS

Dr. Geo. F. Eubanks (Atlanta): I want to thank Dr. Phillips for his presentation of anesthesia in rectal surgery. Anesthesia is an important factor in proper postoperative comfort. Dr. Phillips says he can remem-

ber, and I can myself, when postoperative experience following surgical procedures of this nature was excruciatingly painful. That was true in generations past and unfortunately it still is true in this generation.

I think one of the requirements, as Dr. Phillips brought out, is relaxation of the sphincter mechanism so that you will need the smallest possible amount of manual dilatation. I have never found that it required manual dilatation if a properly administered local anesthetic is used to permit the admission of a proper anoscope. Division may be required to take care of the scar tissue around the anus from previous infection or operation.

I am not in complete agreement with Dr. Phillips. I think it is a most valuable fact that we don't all agree. I use local anesthesia in 99 per cent of the work I do without resorting to the use of general anesthesia. Occasionally in a short operation I merely use induction of local infiltration in the superficial tissues. If it is impractical, I sometimes give just cyclopropane or ethylene gas where the operation will last only five minutes.

As for sacral anesthesia, I use 30 cc. of 1 per cent procaine in the caudal canal plus 20 cc. in the second foramina. This is ideal except in one instance, pilonidal sinus disease.

Fifty milligrams of novocain dissolved in 2 cc. of spinal fluid in the space between the fourth and fifth lumbar vertebrae is the anesthetic of my choice. This anesthesia has given no complications and the patient is able to control his feet and legs throughout the entire operation.

I have found some benefit from oil soluble anesthetics. These have been said to delay healing. However, in 400 consecutive patients no complications resulted from this. I do not maintain that it relieves the patient of all postoperative discomfort; it does not. It minimizes the intensity of the pain for twenty-four hours, the most painful period after the operation. I give 5 cc. routinely and as much as 10 cc. to prolong the period of comfort. Careful technic is essential, observing that the needle point never stops, in order to prevent pooling and promote proper distribution of the oil solution. Cleanliness is of utmost importance during convalescence. I dress my patients every day. If the wounds are irrigated and cleansed I think all these factors will promote the comfort of the patients, and certainly the proper healing will be had with a minimum amount of scar tissue and reduction of pain for the patient.

Again I want to thank Dr. Phillips for bringing this interesting paper. I do feel that most of the work can be done under local without combining ethylene anesthesia. I thank you.

Dr. J. H. McDuffie (Columbus): I am very glad to be able to discuss a paper of this character. You see and hear so few articles regarding postoperative anesthesia or analgesia. The textbooks are concerned mainly with the data for postoperative treatment with very little on postoperative pain. What has been done recently has helped patients wonderfully and I really am glad to be able to commend Dr. Phillips on his paper. So little attention is usually paid to analgesia, but when you can

get such effect in regard to such things as the patient being able to leave the hospital in four days' time, go to football games at the end of eleven days and stay perfectly comfortable with no disturbance at all, with no opiates, when such things are done following both external and internal hemorrhoids, certainly advance has been made in proctologic surgery. I think so many men still think that the patients don't suffer as much as they apparently put on. There is an old gentleman in our district who thinks the best cure for hemorrhoids is to insert his index fingers of both hands into the rectum and if possible finally get the fissure between two fingers of each hand to start dilatation and follow the patient around the room. (Laughter.) We have come far from that old school and, as Dr. Phillips has said, it is only in the last decade that any attention practically has been paid to this type of analgesia.

Personally, I have never used eucupin except in oil solution. I have used office procedure in regard to fissures and polyps, even so far as to remove or treat a fissure. Afterward the patient can go back to work perfectly comfortable. Those things have fully held. Now that is advance where a patient has previously had to go to the hospital and as you all know rectal fissure is one of the most uncomfortable things that a patient can have. Personally, I have had better results in using injections at the beginning of the operation. I usually use inhalation anesthesia like cyclopropane or nitrous oxide. Of course, I think in the procedure where oil soluble is used you have it more scattered in the tissues than other anesthetics. I never use as a rule the size needle that you are advised to use in injecting oil. I use as small needle as I can use for local infiltration, in that way injecting the oil ahead of the needle, never allowing the needle to stop. It is almost impossible then to pool the solution and produce infection and also sloughing.

I am very glad Dr. Phillips brought this paper because we hear so much of the type of anesthesia for operative work to be done but hear so little in regard to the comfort of patients postoperatively.

Dr. Charles H. Richardson (Macon): I enjoyed Dr. Phillips' presentation very much because I think nothing has contributed more to the improvement of surgery of the rectum and anus than the advances made in anesthesia. I agree with Dr. Phillips about combined anesthesia. I think Dr. Eubanks is correct in saying it is possible to operate on 95 to 99 per cent of the patients of this type under local anesthesia, provided—he might have added—the patient will hold still. Some patients are not fit subjects for local anesthesia. That type of patient does very much better with a little ethylene gas and then infiltration of the area of operation with a local anesthetic.

I think one of the things that has contributed quite a little comfort to the operation and to the advantage of the anesthesia is the position of the patient on the table. I think most operations of this type can be done most satisfactorily and probably better if the patient is in prone position with the hips elevated. Once the local anesthetic has been injected and anesthesia is complete, it is very simple to dilate the canal even with the

fingers and insert a pack to control the oozing and then you can drop a golf ball in the rectum if you want to. It is an advantage in the operation to have the patient in this position.

One other type of anesthesia that is most satisfactory is sacral anesthesia. I think in most cases if the surgeon is willing to wait the required twenty minutes the anesthesia will be very satisfactory and complete and then you have no distortion of the parts as in local infiltration. I have had no experience with the infiltration of local anesthetics and oil such as Dr. Phillips has had. I know doctors are using it quite a good deal. I have not been very sure that an anesthetic that lasted over a period of days was entirely safe and have not been sure that in some instances it is not liable to produce slough. Of course, it doesn't happen often. But when it does, it is a very unhappy occasion.

I have enjoyed this presentation very much and I think we are indebted to Dr. Phillips for bringing it to us.

Dr. A. M. Phillips (Macon): I have very little to say in conclusion. I want to express my appreciation to Dr. Eubanks, Dr. Richardson and Dr. McDuffie for discussing this subject.

Any one of several different anesthetics can be used in rectal surgery. Low spinal anesthesia offers perfect relaxation, but I do not feel quite as safe when using it as I do when using local infiltration. Several years ago I used low spinal anesthesia a good bit but I have discarded it in favor of the infiltration method.

Sacral anesthesia is very satisfactory and also provides complete relaxation provided it is successful. The technique of inducing sacral anesthesia is difficult in some cases and I have not had a great deal of success with this type of anesthesia.

I would like to say again that I use ethylene gas in conjunction with the local anesthetic in order to remove the anxiety of the patient, since most patients will anticipate pain during the operation and there is some difficulty in getting the patient to cooperate. The majority of patients suffering from rectal conditions of long standing are very nervous and, due to that fact, I think they are better off asleep.

One of the main points I want to bring out in this paper is that I have had success in using eucupin in place of procaine. Relaxation obtained by the use of eucupin is just as satisfactory as that obtained with procaine and, in addition, eucupin produces an anesthesia of prolonged action. The anesthetic lasts, as Dr. Eubanks pointed out, over a period of twenty-four to thirty-six hours postoperatively. It is during this time that a patient has the greatest postoperative discomfort, and if a patient is made comfortable during this time by any type of anesthetic, its use is worthy of consideration.

WARNS OF BENZEDRINE ADDICTION

A warning of the possibility of addiction to amphetamine (Benzedrine) sulfate, from its continued use, is made by Sidney Friedenberg, M.D., Camden, N. J., in *The Journal of the American Medical Association* for March 16.

Dr. Friedenberg cites the case of a young woman who, given tablets of the drug for weight reduction, found that she could not carry on her duties of a beautician without the stimulus that the drug supplied.

SOME COMMENTS ON THE TREATMENT OF CONGENITAL CLUBFEET

J. H. KITE, M.D.

Atlanta

The treatment of congenital clubfoot is a cooperative proposition. It takes the cooperation of the family physician, the parents, and the orthopedic surgeon, and if it is a charity patient, some philanthropic organization.

When a clubfoot is successfully corrected, the credit should not go entirely to the orthopedic surgeon, because he could not have treated the patient if the family physician had not referred the patient to him, nor could he have treated it if the parents had not brought the child back and forth; and if it is a charity patient, as most of them are, the treatment might not have been possible if some benevolent organization had not provided the place and material.

The converse of this is also true. When the treatment of a clubfooted child is not begun shortly after birth as it should be, but is delayed until the child has learned to walk, the blame cannot be placed on the orthopedic surgeon. A place may be provided for the treatment and the surgeon willing to do the work, but unless the family physician advises the parents to get treatment early and where to take it for treatment, it goes untreated.

Inquiry reveals the fact that these older neglected clubfooted patients were not delivered by midwives, but by physicians. An appeal is being made here to the family physician who first sees these babies to refer them for treatment early.

We are seeing clubfooted children much earlier at the Scottish Rite Hospital than we did fifteen years ago. In 1923 the average age of the twenty-four new patients received that year was 31.5 months. The average age of the twenty-five new patients seen in 1938 was ten months. We feel that stressing the importance of early treatment to every parent has been of value.

Many times when I ask the parents who

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bring their babies early who referred them, they say that it was the parents of another clubfooted child whom we had treated, who had heard about their clubfooted baby and had urged them to bring it early.

When I ask the parents of the older patients why they delayed so long in coming, they frequently say that their physician told them that their child might outgrow the deformity, and if it did not, it would require an operation when it was older to correct the deformity. I believe little of what patients tell me when they are quoting a doctor, but from the frequency of this reply, feel that this advice has been given too often. The hope of a spontaneous recovery is not justified, and is a cause for delay. When the deformity persists the fear of an operation causes the parents to procrastinate longer. As a consequence, the child is not brought for treatment until the bones have developed and have become fixed in the deformed position. This prolongs the treatment and prevents the child from ever getting as good result as it would have had if the treatment could have been started when it was a few weeks old. Procrastination is almost as serious in the treatment of clubfeet as it is in the treatment of malignancies.

The question is frequently asked, "What is the proper time to begin treating a clubfoot"? A young baby is upset by being carried to a doctor's office or clinic during the first few days of life, so I prefer to wait until it is about four weeks old, if it is in the same town as the surgeon who is going to treat the feet, and to wait eight weeks if it has to be carried a long distance.

The second point I would like to stress in cooperation between the family physician and the orthopedic surgeon is this: If the physician has not had previous training in treating clubfooted cases, that he not try to treat the baby, but refer it to an orthopedic surgeon before it has had any treatment. This applies to charity patients as well as to private patients, since ample provision has now been made to care for the charity patients.

Our statistics show that it takes longer to correct clubfeet which have had inadequate treatment elsewhere than it does to

correct untreated clubfeet of the same age. When treatment is given, if the foot is untwisted in such a manner that the bones can move on each other to the normal position, the deformity will be corrected, but if the foot is held in such a position that motion cannot take place, the pressure of bone against bone will not only block the correction, but will cause atrophy of the cartilage in the joints, and finally adhesions, which will bind these joints together in the deformed position. Later, if treatment is properly applied, the foot will not yield to the corrective force because of the adhesions. If the doctor treating the foot should become impatient and give the child an anesthetic and try forcibly to correct the deformity, the foot may be left quite stiff, so that only operative treatment later will correct the deformity.

During the past decade the treatment of clubfeet in many clinics has swung from the *radical operative* treatment to the *conservative non-operative* treatment. Ten years ago I described a method for treating clubfeet which had been worked out at the Scottish Rite Hospital by Dr. Michael Hoke, Dr. Lawson Thornton and myself, and which I had used successfully on a hundred patients. The deformity was corrected by a series of plaster casts and wedgings, without an anesthetic and without the use of force and without any cutting operations. This method took considerably longer, but gave much better feet. The feet were not only restored to normal appearance, but were free from adhesions and had normal function.

The treatment of clubfeet has always been a difficult problem, and when it is accomplished without the use of force it is still more important that certain mechanical principles be followed.

Talipes equino-varus accurately describes the deformity, which consists of three component parts. The first is the "forefoot adduction" which is evident when the forefoot is compared with the posterior foot. The second is "inversion" and the third is "equinus" deformity. This last can be divided into "forefoot equinus" and "ankle equinus." It is necessary that each of these deformities be corrected in the order men-

tioned. If an attempt is made to correct the equinus deformity before completely correcting the forefoot adduction and inversion deformities, the deformity is sure to recur when the foot is released from plaster, no matter how long it is kept in plaster.

The surgeon who undertakes to correct clubfeet assumes a considerable responsibility. A patient seldom undergoes a major operation which means any more to him than does the successful correction of his feet. When treatment has been started it should be continued until it has been carried through to a successful completion, and the patient should be followed for a number of years to detect recurrences early and to give further treatment when necessary.

I have seen some untreated clubfooted persons who were able to work and be on their feet most of the day, and get about with very little disability. I have also seen partially corrected clubfooted patients who have had some form of treatment off and on most of their lives, who could walk only with braces and crutches, and with great difficulty. Some of these were more handicapped than the untreated patients.

Even though one has graduated from an accepted medical school, he would not try to do a pneumothorax, a cystoscopic examination or do a major operation without special training. The treatment of clubfeet also calls for special skill, and should not be undertaken unless one is familiar with plaster and unless he has had an opportunity to carry a few cases through to completion under competent supervision during his preliminary medical training.

When I first described the method of treating clubfeet by "casts and wedgings," I received letters from doctors who had read the description of the method and who had tried it, and who wrote me that it would not work. Some said they could not keep casts on a baby; that the child would kick them off. Others said that they got pressure sores under the casts. These statements simply indicated a lack of skill in the use of plaster. We usually have about three dozen clubfooted babies under treatment at all times,

and not one cast in a hundred slips, and we practically never see a pressure sore.

We still have recurrences, but fewer than we used to have. One of the reasons for recurrences is the failure to correct all of the forefoot adduction and inversion deformities before beginning dorsiflexion. It is difficult to tell clinically when these deformities have been corrected. Four years ago I published a method for determining this accurately by x-ray, and this has been a great help in keeping me from doing harm to the feet and in preventing recurrences. It keeps me from doing harm by making it unnecessary to over correct the feet, and get them in a flatfoot position. It enables me to be sure that I have these deformities well corrected, so that I no longer start bringing the feet up in dorsiflexion with the heel inverted, which position blocks further correction and causes adhesions which makes it very difficult to ever correct the inversion deformity later.

The details of the cast and wedging method have been described so need not be repeated here. The mechanical principles referred to here were illustrated by lantern slides when this paper was read, and demonstrated in the scientific exhibit. They will not be repeated here, as they have been described recently in detail and fully illustrated in the June issue of the *Journal of Bone and Joint Surgery*.

The points I want to stress in this paper are: the importance of beginning treatment early, and to ask that clubfooted children not be treated before being referred, and that the treatment used be "non-operative." During the last fifteen years I have personally treated over four hundred clubfooted patients at the Scottish Rite Hospital and at my office. Ninety per cent have been successfully corrected by this method. The ten per cent requiring operative treatment were those who had had previous treatment, or who were not referred for treatment until they were well advanced in years. The co-operation of the family physician in referring clubfooted patients early will be a great saving in time and money, and will

make it possible for the child to receive the nearest approach possible to normal feet.

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REFERENCES

1. Kite, J. H.: Non-operative treatment of congenital clubfoot: a review of one hundred cases. *South. M. J.*, 1930, 23:337.
2. Kite, J. H.: The treatment of congenital clubfoot; a study of the results in two hundred cases. *J. Am. M. Assoc.*, 1932, 99:1156.
3. Kite, J. H.: The treatment of congenital clubfeet. *Surg. Gynec. and Obst.*, 1935, 61:190.
4. Kite, J. H.: Congenital clubfeet. *Orthopedic Surgery*, Ralph K. Ghormley. Thomas Nelson & Sons, New York, 1938, pp. 287-302.
5. Kite, J. H.: Principles involved in the treatment of Congenital Clubfeet. *Jour. Bone and Joint Surgery*, June, 1939.

DISCUSSION ON PAPER OF DR. J. H. KITE

Dr. Peter B. Wright (Augusta): I agree with Dr. Kite that the treatment of congenital clubfoot is a co-operative proposition. The family physician, if he has not trained himself (as most of us who do general surgery have done), must refer these patients to one who is familiar with the deformity and its treatment. To the parents should go the credit for patient cooperation. In my experience it is only those parents who have not received proper explanations who refuse treatment for their deformed children. The physician who renders advice and treatment for all maladies both mental and physical of a family is the one who can best approach and advise these parents. Should he not do this particular type of work he knows to whom they should be sent.

I also agree with Dr. Kite that treatment should be instituted as early as possible. It is my preference to start treatment during the first week of life, since the foot of a newborn child is chiefly cartilaginous and can be readily molded into normal shape. When cartilage is replaced by bone the task becomes more and more difficult. Treatment begun a few days after birth may often be limited to manipulation by the mother or the nurse after due explanation by the physician, and under his constant supervision. To the question at what age should one treat congenital clubfoot, Dr. Calot, in his book published in 1922, gave this answer, "As soon as possible." He also said: "Clubfoot is always curable." He further said: "I am obliged to say this for the sake of certain practitioners who are still in doubt and, if any clubfoot has not been cured in spite of treatment it is because the treatment has not been properly carried out." Dr. Albee, in his publication of 1919, humorously stated that should clubfoot be noticed in a foot of a breech presentation, manipulative treatment should be instituted even before delivery of the head.

As the child grows older the deforming forces continue and, in accordance with the law of Wolff, there are actual changes in the shape of bones and their articular surfaces. With proper, painstaking and continued treatment, it is my experience that all cases of congenital clubfoot seen within the first seven or eight years of life should be cured. The percentage of cures will decrease proportionately with the age at which treatment is begun. Older children show definite bone changes and growth discrepancies which will demand more severe treatment and possibly operative intervention.

We are all seeing deformed children earlier than formerly because of the activities of various benevolent societies and national campaigns devised to educate the public. The idea of a child outgrowing a deformity has become passé to physicians and public alike.

In agreement with Dr. Kite I will reiterate that proper treatment is imperative and must be based upon a sound anatomic understanding of the deformity. In the equino varus deformity the Achilles tendon becomes a powerful inverter of the foot. Efforts to first correct the equinus deformity exaggerate the inversion and prohibit correction. The varus deformity must be corrected first and according to many authorities it must be corrected until the first toe is in line with the internal malleolus. While correcting this deformity the inversion deformity which takes place chiefly in the subastragaloid joint is also corrected. After correction of the varus and inversion deformities the plantar flexion is to be overcome. Ninety per cent will be corrected by the wedging method, but in the remaining ten per cent the Achilles tendon and often the posterior capsule of the ankle joint must be divided. It must be remembered that by over anxious and violent treatment the midtarsal joint may be broken with the result of apparent correction but actual failure of correction of the deformity of the os calcis.

A point of extreme importance is the too often complicating knock-knee deformity. Extreme caution should be taken to protect the internal lateral ligament of the knee joint during treatment. The tibia should be firmly held by an assistant during the manipulation of eversion so that no strain shall be put upon the knee joint. A patient whose deformity has been only partially corrected should not be forced to try to place the inner side of the sole on the floor, as this also puts an undue strain on the knee joint with the resulting knock-knee deformity. Corrective shoes should be prescribed only after correction of deformity so that weight bearing should force only continued correction and not put a strain on the knee joint.

To further stress the necessity of adequate treatment it might be well to recall to you that relapses are due: first, to insufficient correction; second, to the lack of power on the part of the anterior and lateral muscles to pull the foot into an overcorrected position; and, third, because the weight-bearing does not put force in a direction that acts as a correcting force.

From my discussion I hope that it will be plainly understood that I favor and practice conservative, non-abusive treatment of clubfeet, but do admit that in ten per cent of cases it will be necessary to resort to more severe and frequently operative treatment.

Dr. Randolph Smith (Atlanta): Dr. Kite has taken advantage of a real opportunity to study clubfeet, and his contributions to our knowledge of this subject are of inestimable value. This paper was written primarily for the man interested in correcting clubfeet. I can add nothing to what he has already said. However, most of you men present are not particularly interested in the treatment of clubfeet. Nevertheless, as you listen to a paper like this, certain facts seem to stand out. Many children with clubfeet are still being brought in for treatment late. The medical profession is responsible.

At the present time we are busy fighting the various "cults," quacks, etc. Our efforts in this fight frequently seem futile. By improving the knowledge and standards of our own profession we probably can do more real good in this fight than is possible by legislation.

For that reason a paper such as Dr. Kite has just read, or any paper that will bring a situation so clearly and forcibly before the medical profession, will accomplish a great deal of lasting good to all of us.

Dr. Joe H. Boland (Atlanta): I enjoyed hearing Dr. Kite talk very much because he is recognized as one of the authorities on this subject, not only in this country but abroad. A couple of summers ago I had the opportunity to visit several clinics in Europe. As soon as I would go in they would ask me more questions about Dr. Kite than I had a chance to ask them about their methods.

Dr. Kite, of course, didn't get a chance to bring out all the details in the treatment of clubfeet. One thing that I think is important is the follow-up. Just as soon as these children have their feet corrected and begin wearing shoes, the treatment is by no means completed. They should be followed very closely for several years, at least two years, after beginning to wear shoes, because you can pick up beginning recurrence and treat it early, then you don't get the actual recurrence. They should be followed very closely after they are corrected and are wearing shoes.

The time to treat a clubfoot is as soon as you see it, whether it is a baby the first day it lives or a child ten years old. As soon as it is seen, treatment should be begun. Not long ago I had a chance to emphasize that fact in talking to the medical students at Emory. I said, "The time to treat clubfoot is as soon as you see it. It may be the first day of life or the tenth year." Not long after that I was going to help my father do a cesarean and a group of students were hanging around the hospital and they came in and began teasing me a little bit. They said they thought I was an orthopedist. I told them that was just what I was doing. I had told them the time to begin treatment of a clubfoot was as soon as you see it and I wanted to get the baby just as soon as it was born.

QUININE RELIEVES MUSCULAR AILMENT

Quinine proved effective in relieving deforming muscular dystonia (muscular contraction resulting in deformities) in three patients, George B. Hassin, M.D., Chicago, reports in *The Journal of the American Medical Association* for July 1.

The affliction is characterized by excessive, involuntary, uncontrollable movements or spasms producing distortion, especially of the spine and hip. One of the author's patients, however, complained of spasms only of the neck. Large doses of quinine were used.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

SOME PROBLEMS OF MEDICAL CARE AS SEEN BY A COUNTY HEALTH OFFICER*

M. E. GROOVER, JR., M.D.

Quitman

As a physician and as a public servant, the county health officer sees the subject of medical care from both the side of the general public and that of the practicing physician. The health officer also sees it as a problem that has been practically ignored by the Department of Public Health and the medical profession.

I am absolutely in accord with the idea that the health commissioner should devote his entire time to the prevention of disease, and not the work of curative medicine, but I cannot help but look with shame on our present policy of visiting hundreds of individuals physically unable to earn a living who must be content to sit or lie abed, depending on friends and relatives for support until they reach the age of sixty-five and can obtain old-age assistance from the government. Many of these individuals could be made self-sustaining with proper physical rehabilitation and might even become an asset to the community rather than a liability.

In Brooks County, which happens to be the only area with which I am thoroughly acquainted through two and one-half years' actual contact with indigent and low-income families, I have estimated that forty-five per cent of the rural population receives inadequate medical attention and about forty per cent of the remaining fifty-five per cent receive medical aid for which they are unable to pay. For this, our overworked and underpaid physicians pay the bills. They use their own cars and supplies, and lose many hours of much-needed sleep to care for the group of charity patients who never pay anything.

This subject can be viewed from four angles:

1. That of the patient.
2. That of the physician.
3. That of the community or people.
4. That of the Public Health Department.

*Read before the Medical Association of Georgia, Atlanta, April 28, 1939.

1. To look at this question from the patient's viewpoint we need only to visit any one of the large number of individuals in Brooks County. They all tell the same story. Take, for instance, a personal acquaintance of mine, a white man, aged 61. At one time he was quite prosperous and owned a two-horse farm, but due to generally poor financial conditions about eight years ago he was forced to do considerable heavy work on his farm that he had previously left to young Negro men living on the place. He has developed large bilateral inguinal hernias, and is now unable to do any manual labor. While his land was not very valuable, he has lost his farm trying to carry on and pay taxes and now has no means of support. He is allowed to live in one of his previously owned tenant houses. He states that he could earn a living working in the field, if he were only able to work. A doctor has agreed to do the operation free of charge if he can secure enough money for the hospital bill. So far he has been unable to gain admission to the hospital and is an invalid living on the charity of his friends. He has fared very poorly this winter.

Money could be secured from the local civic organizations and churches if it were not for the fact that there are so many more individuals in the same condition, which would necessitate the expenditure of a large sum of money to effect their physical rehabilitation.

2. Viewing the subject from the standpoint of the family physician, who has unselfishly watched various governmental agencies encroach upon his field, the condition becomes alarming, and something should be done to insure for him an equitable income for the time and money that he has spent preparing himself for his work. In the present set-up, money is actually being taken out of the pockets of the physicians. Some of them are growing old, and have worked from thirty to fifty years, day and night, to serve the people of their community. They realize the advantages of the family physician, and they know that the government-paid physicians will never give

the individual the high standard of medical attention that can be produced by the family physician. They have driven many miles and lost much-needed rest and sleep to render aid to patients whom they knew would never be able to pay them for their services, but the doctor feels that he has received his pay in the satisfaction that he has faithfully served his fellow man. The doctor feels that he has and will continue to give adequate medical attention to those who seek his services, whether they can pay their bills or not. This he does cheerfully, but when the word *State or Socialized Medicine* falls on his ear, he immediately sees red, and I am afraid little else.

Intelligent cooperation of organized medicine with the government can forever prevent the advancement or instigation of socialized medicine. The men who speak for the American Medical Association do not see the thirty or forty per cent of the country's population that already owe the physician more than they can ever pay, and who have tried to get the doctor to come to see them, but he had other calls that were more urgent, and could never get there. This group of people and that group who use first one doctor and then another, never-paying any of them, constitute the class of people from whom the physician should be protected. The doctor is glad to render his services to indigent patients free of charge, but he should not be asked to do this when in so doing he often loses patients that are able to pay for his services. The physician has a large investment in his professional education and physical equipment. He should not be asked to use his time and equipment without remuneration.

The Medical Association is afraid that the government will interfere with the sacred relationship between the doctor and his patient and that the patient will be told which doctor he must patronize, and that the doctor will be compelled to answer all calls, disregarding emergency situations and personal equations. But what has the Medical Association done to avoid this much-dreaded condition? A few country

doctors have silently remained in the background hoping that the day will soon arrive when they can receive enough money from the government to live upon and be allowed to practice their chosen profession without the worry and annoyance of collecting bills from patients who are no more able to pay them than they would be themselves. Other doctors who now have lucrative practices are afraid their earnings will be reduced to a minimum, and for this reason they make speeches before clubs and gatherings endeavoring to leave the situation as it now stands rather than try to evolve a measure which will be of benefit for both the practicing physicians and the general public.

In the State of West Virginia the State Medical Society has worked out a plan of cooperation with the State Department of Public Assistance for rendering medical aid to indigent patients. A satisfactory scale of fees has been arranged for the various medical services, including hospitalization, x-ray and laboratory services. The patient is investigated by the Welfare Department and given authorization for medical service. The patient is allowed to choose his own physician and no physician is bound to take a patient unless he so desires.

The relationship between the physician and the Welfare Department is the payment of the bill presented by the physician. In cases of emergency, the patient may call any physician he chooses and if the physician sees that the patient is unable to pay for the medical attention rendered, he may submit a bill to the Welfare Department, who investigates the case and approves the bill according to the findings of the investigation. The same is true of hospital and drug bills.

The fees and charges are, of course, reduced from the normal, but this is a group of patients that would not receive medical service at all and no one would be paid for the services if such a plan did not exist. In that state over three thousand two hundred and forty physical corrections have been made at a cost of about \$94.00 each, and these include everything from cataract operations to the injection of varicose veins.

If organized medicine would get down to the business of working out a plan like the above, a great deal of fine work can be accomplished for not only the individual citizen, but for the welfare of the individual physician as well. If the medical profession does not do something along this line, we may be sure that the laboring class and general masses of the unemployed will demand that real state or socialized medicine be put into effect, a condition that I fear as much if not more than those who are doing most of the complaining today. I think that there is no doubt that the medical profession as a whole will benefit even more than the patient or the government, if some plan such as the one previously mentioned can be put into effect. The President of the United States has already asked for eight hundred fifty million dollars, and some of it, if not all, will be appropriated, so something must be done to direct this money into the proper channels and not allow it to be squandered by political bureaucrats.

3. From a standpoint of the local, State and Federal governments there is every reason why physically unfit individuals should be able to work and earn a living. Any governmental policy or agency that allows a large number of individuals to continue to draw on its treasury and never contribute anything in return, is bound to ruin or weaken the economic set-up of that government. I do not mean to say that merely the physical rehabilitation of the individual is all that is necessary, but I am sure that unless the person is made physically fit, there is no chance of making him or her self-sustaining, much less an asset to the government.

I think that under the present Farm Security Administration Rehabilitation program we have an excellent means of making the individual not only self-sustaining, but a real asset to the government. Every man should be made to support his family. If he fails under the Farm Security Administration, then he should be put to work on some worthwhile project for which the government can receive something in return for what has been spent on him. Not the aim-

less digging of ditches, or other projects that the individual knows are created only to give him work, but some type of work that will give him a sense of pride in that he is really doing something constructive for his community.

Governments have long recognized the importance of eliminating unhealthy environments as an asset to business, as well as sound governmental principles to protect the health of its constituents. The government prospers only as its citizens prosper, and our physically unfit citizens cannot be productive while they are unable to produce enough for their own livelihood.

In realization of these facts the public health departments of counties and states have already entered the field of curative medicine. In my own county in 1937 over two thousand patients with malaria were treated through the county health department, and even more than that many hookworm treatments were given. Several hundred patients with syphilis have been treated at the health department clinics, with the local practicing physicians giving their time and services free of charge to operate these clinics. The State Department of Public Health now operates a hospital for the treatment of tuberculosis patients, a full-time physician is being employed to diagnose tuberculosis over the State at clinics held in the various counties. These are all functions of the private physician that have been taken over by counties and the State Health Department in an effort to reduce the spread of disease by treating infectious indigent patients until they become non-infectious. These services were instigated upon the recommendations of the Medical Association of Georgia and put into effect only after advice by the Association.

4. From the public health point of view this is really no problem if we look only at the disabling diseases. But when we view a community with many of its individuals in the productive age physically unfit to make a living it becomes a problem in which we should interest ourselves. The Department of Public Health which enjoys such harmonious relationship with the medical profession in Georgia should do everything

in its power to see that with the coming changes in modern governments the physicians receive a fair deal in every respect. It is the duty of the county health department to do everything possible to help the local physician fight the battles of medical care for the indigent, and not to encroach gradually upon his rights, and through unfair publicity completely subjugate him. After all, it is the medical profession which is responsible for our excellent public health set-up.

In Brooks County, the medical profession is already trying to cooperate with the Farm Security Administration in their plans for the medical care of these families. We feel that in this instance the Farm Security Administration is trying to stretch their money a little farther than it will go, but it is hoped that in 1940 these families will be allowed to borrow more money than was made available for 1939. The plan as now operated would work very well if some arrangement for the hospitalization of these patients could be provided.

All the signs of the time point to the fact that the indigent people as well as the low-income group are going to receive more adequate medical attention than they have in the past. This may be brought about by the intelligent planning of the medical profession, or in a disorderly and unsatisfactory manner by lay groups who are not interested in the welfare of the physicians.

The strategic thing to do is to direct the course of this program in a manner which will be beneficial to the physician, the taxpayer, and the indigent patient. Nothing is to be gained by completely opposing an irresistible force, especially when that force can be applied advantageously.

DISCUSSION ON PAPER OF DR. M. E. GROOVER, JR.

Dr. M. E. Winchester[†] (Brunswick): I want to thank Dr. Groover for his splendid paper, which I feel is a challenge to organized medicine.

Possibly the county health officer sees more illness in a rural county among the indigent sick and low-income families than any other person in the county, except the social welfare worker.

In the fall of 1936 the Glynn County Medical Society appointed a committee to work out some plan with the

[†]Glynn County Commissioner of Health.

cooperation of the Mayor and City Commissioners, and the Glynn County Health Department, to provide adequate medical care for the indigent sick and the small wage income group.

A plan approved by these organizations began operation in March, 1937.

A clinician was employed by the City Commission, who is required to hold an outpatient clinic each day, at the office of the Glynn County Board of Health, between two and four o'clock.

Patients unable to attend the outpatient clinic are visited by the clinician in their homes, and those cases needing hospitalization are sent to the City Hospital and treated.

Nurses of the Glynn County Health Department assist in the clinic, in follow-up work and in the operation of the dispensary.

Patients are admitted for treatment only by an admission card from the Glynn County Welfare Department. This admission card is placed in a file in the clinic and as long as the Welfare Department allows the card to remain in the file, any dependent member of the family is admitted to medical service without question.

The medical care problem of Glynn County is being solved, and the program has now had two years' unanimous approval of the Glynn County Medical Society, the City Commission and the County Board of Health.

This plan of medical care shows that the solution of adequate treatment of the indigent sick and small wage earning person can be accomplished even in a small rural county through the cooperation of those interested in the problem.

There is no perfect medical treatment plan and, as experience teaches us our mistakes, the necessary changes will be made.

During the past year 361 new patients were treated; 1,259 clinic visits were made; 351 visits were made to homes, 148 visits to the jail; 89 patients were admitted to the hospital, with a total of 781 patient days; 36 hospital emergencies were cared for, 45 patients were x-rayed and 49 patients were operated on.

This is the summary of the second year's work in a clinic operated by the Medical Society and the Board of Health, and, strange as it may seem, the doctors in Glynn County believe that this program is workable, serviceable, and saves each of them time and money.

No one will deny that, from the standpoint of curative medicine, it is fundamental that the personal relationship between physician and patient should be preserved. On the other hand, it cannot be denied that modern medical science has put a new concept in the field of medical practice. Today, we are on the verge of a revolution in this field. Modern medicine, and particularly modern preventive medicine, is fundamentally the interpretation and application of modern medical research.

The physician, the patient, the public health worker and the legislator should cooperate to accomplish the desired results. Only through such concerted effort can we hope to reach the goal which preventive medicine

has set for us—the reduction of disease to a minimum, and the prolongation of life.

It has been a pleasure to read and discuss Dr. Groover's paper, and I hope organized medicine will accept his challenge.

Dr. M. A. Fort (Bainbridge): Plutarch says that it is an easy matter to criticize another man's oration, but it is extremely troublesome to produce a better one. And so it is an easy matter to find objections to present conditions, but a difficult matter to correct these conditions.

Using my own county as an illustration, I find that last year 54 people, or 16½ per cent of those who died, died without a physician. While some of them died from strokes or accidents, most of them died because they could not get a physician. They could not get a physician because they had no money, or had not paid for former services, because to have paid would have been to go without food, clothes, rent, and other things they thought more essential.

Every day men come to me saying, "I came to you because I am a poor man and can't pay a doctor." I reply, "But the Ellis Health Law absolutely prevents my treating you." "Yes, but I'm too poor to pay other physicians." "So are a thousand others in this county right now. If it were known that I would treat them, there would be a hundred in my office right now." And it is a fact. If they were treated free, they would become pauperized, and would tell us how and when and where to proceed in the future.

How should these people be treated? There are families in our town who have been cared for by doctors and citizens for three generations. I have advocated that the county build houses or barracks on the County Farm for these. If they beg, put them in a house on the farm, under direction of the supervisor, give them the use of a mule and make them raise their own corn, pigs, chickens, eggs and vegetables. They will still have plenty of time to raise more for selves or market, peddle surpluses and take other short jobs if they desire. If they refuse this help, tell them to work, travel or starve. They should be able to make their own way, and even pay a doctor, at least in kind, with this direction from the county, they should get along as well as the very poor who are not begging, which is quite enough, for beggars should not be choosers.

A big thoughtful farmer said to me recently, "Before all this alphabetical aid spoiled things, our church inquired into urgent needs every week. We gave for temporary needs, but found work, homes, direction also; something was found for all to do, so that they soon worked themselves out of trouble and into a better, more self-respecting condition than before. What are the churches for?"

A man came up to a doctor at a country town store. "Doctor, I want you to come to see my wife." "Have you any money?" "No." "Then I'm not going." So the man went away. A bystander said, "Doctor, you should have gone to see that man's wife for charity." "Yes," the doctor replied, "we all ought to do some charity. Now how much have you done this month?"

The man admitted he had done none. So the doctor said, "Well, I've done over \$50.00 worth, and I have practiced for that man for five years and he won't pay me a cent. But we must all do some charity. The bill to go to that man's house is \$5.00. But you say it must be done for charity. So, my great believer in charity, give me \$2.50 and I'll stand the other \$2.50 myself, and go to see the woman. What do you say?"

But the young man went away sorrowful.

Dr. J. R. McMichael (Quitman): I think that Dr. Groover's paper is very timely and that your program committee is to be congratulated on allowing this paper to be presented. In the past we have avoided facing some of these problems. We have compromised by having splendid doctors, usually professors from medical schools come down and talk to us on medical economics. Unfortunately, these gentlemen have not seen the picture that Dr. Groover has presented to us this morning. This is a true picture of the practice as seen in rural Georgia, and those of us who live in rural Georgia realize that it is time for the medical profession to take some stand towards correcting it. I believe that we are not accomplishing anything when we discuss this proposition and only criticize the efforts that our legislators have made toward helping us to correct it, nor do I believe we are getting anywhere when we make the statement that the poor are being cared for properly and that the doctors of the United States are giving a million dollars' worth of service a day to the poor. We might as well say we are giving five million dollars' worth of service to the poor. At the same time we might say that the young doctors who are learning how to practice are getting five million dollars' worth of experience from practicing on the poor; experience that is much needed by them, that they may successfully practice for those able to pay. I know that there is a definite need of a more adequate type of medical service for a large per cent of the people in rural Georgia. Some plan for meeting this need should be sponsored by organized medicine. The leaders in medicine in the large medical centers need not be expected to offer a plan, for they do not see the need. The plan should originate from the rural doctors who daily see the need for a more adequate type of medical service among the people with whom they work. One can readily see how a doctor in an Atlanta office who has the advantage of a large municipal hospital where thousands of cases of charity are treated every year cannot understand that 14 per cent of the people of Georgia are dying without medical care, that there are more registered midwives in Georgia than doctors, and that 36 per cent of the children in Georgia are delivered by midwives.

Gentlemen, I believe that this is a condition that organized medicine should consider seriously, rather than criticize the government for its efforts to help us; we should interest ourselves in meeting them half way and spending some time and effort in developing a plan similar to the one the President of our Association offered yesterday. I frankly say that I have been coming to the Association for several years hoping that a doctor would suggest a plan that might be tried out. It is

something that we must experiment with. I congratulate our President for being so bold as to submit a plan. His plan, no doubt, has its faults, but at least it is a doctor's plan rather than a layman's, and is worth trying.

I agree with Dr. Groover that unless the doctors of Georgia and the United States stop criticizing the efforts being made and make some plan so that we will have control of ourselves, we will have State Medicine. The government not only has the right to interest itself in the conditions such as Dr. Groover has described today, but the duty to see that these conditions are corrected. These conditions are true in my county, and one must believe that what is true in Brooks County is probably true in every rural county in Georgia. I admit that in the larger cities the poor may be given proper medical care, but a large per cent of the people in rural Georgia are not getting adequate medical attention.

Dr. M. E. Groover, Jr. (Quitman): I wish to thank Dr. Winchester, Dr. Fort and Dr. McMichael for discussing this paper. There is just one thing concerning Dr. Winchester's remarks that I would like to discuss; that is, the advisability of using the paid government clinician to treat our indigent sick.

I think the full-time salaried clinician is the very thing that we should fear most, and against whom we should concentrate all our efforts to eliminate. This is where all our fears of regimentation, starvation income, and the degradation of the present high standard of medical service have originated. Our poor country practitioners should derive a good share of any increased income and chances for refresher study courses from any plan to provide more adequate medical care for the indigent sick.

Government-paid clinicians will quite likely mean the ultimate ruin of our fine old country doctors, and no one is more able to appreciate this group of physicians than the health officer of a rural county. I personally intend to stick up for them till the end.

If the West Virginia plan seems acceptable, I think this society would do well to look into it more closely.

I am very grateful for the opportunity of presenting this paper and wish to thank you very much.

USE X-RAYS IN DIAGNOSING "BENDS"

Evidence that the diagnosis of the "bends," an occupational hazard of divers and tunnel workers, can be supported by x-ray pictures is presented by J. O. Gordon, M.D., and C. H. Heacock, M.D., Memphis, Tenn., in *The Journal of the American Medical Association* for February 17.

The "bends," characterized by severe pain in the abdomen and knees, occur when a worker who has been subjected to an unusual amount of air pressure comes up to the surface too speedily, thereby making possible the formation of bubbles in the body tissues from nitrogen absorbed in breathing compressed air.

The case reported by the authors is that of a tunnel worker who because of injuries was not adequately "decompressed" before being taken to the hospital. In the hospital x-rays of his knees were taken and bubbles of gas were seen on the pictures. These bubbles were absorbed, which was also revealed by x-ray study. No permanent injury to the joints resulted.

The Tennessee men believe that this is the first case reported in which the diagnosis of the "bends" was supported by x-ray study.

THE RELIEF OF PAIN IN TRIGEMINAL NEURALGIA*

EXUM WALKER, M.D.
Atlanta

Trigeminal neuralgia is characterized by paroxysms of agonizing pain in the face. Though the etiology and pathology of this clinical entity are unknown, the dreadful paroxysms of pain can be abolished with certainty.

facial expression depicts intense suffering. After a time ranging from a few seconds to several minutes, the pain gradually or suddenly ceases. At first there may be long remissions between the paroxysms of pain, but the tendency is for the attacks to recur at increasingly frequent intervals until they are almost constant.

Medical treatment has been of no avail. Once the affection is well established, the paroxysms of pain will continue until relieved by appropriate surgical intervention.



Figure 1

An artist, who suffered from trigeminal neuralgia, illustrates the agonizing pain of this dreadful affliction.

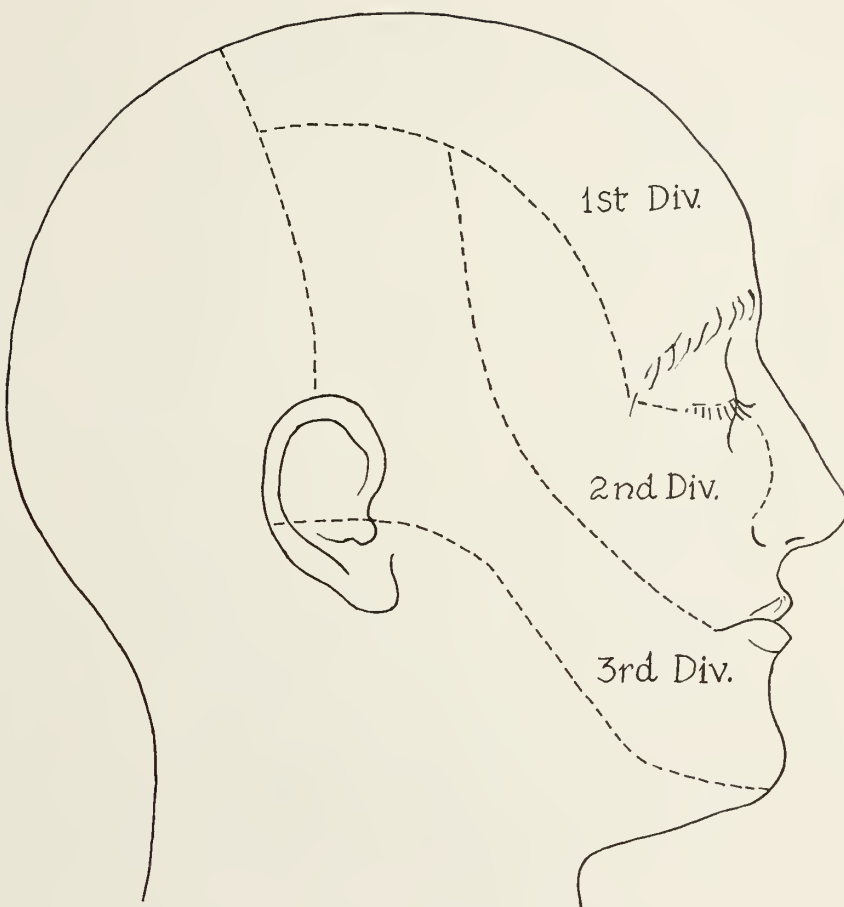
The distribution of pain depends upon the branch involved, but the character of the pain is very nearly the same in all cases. There is a sudden sharp stabbing or shooting pain, described as being like red hot needles or a tearing of the flesh. The attack is so violent that the patient often remains motionless and ceases all conversation. The

The pain can be temporarily alleviated by injection of alcohol into the involved branches peripheral to the Gasserian ganglion. Permanent relief may be obtained by surgical division of the posterior sensory root of the trigeminal nerve.

Figure 1 shows an artist's conception of a patient suffering from trigeminal neuralgia. The sketch is copied from a lithograph by a Dutch artist of the 19th century, Alexan-

*From the Department of (Neuro) Surgery, Emory University School of Medicine, Emory University.

Figure 2
The cutaneous distributions of the three divisions of the trigeminal nerve.



der Ver Huell, who was supposed to be a victim of this painful affliction.

Figure 2 shows the cutaneous distributions of the three divisions of the trigeminal nerve. The pain of trigeminal neuralgia may involve any one of these divisions, but may also spread to involve all of the divisions as the affection progresses.

Figure 3 shows the origin and distribution of the trigeminal nerve. If a nerve is injected with alcohol or surgically sectioned peripheral to the ganglion, the relief of pain will be temporary, for regeneration of the nerve will occur. If the posterior sensory root is severed central to the ganglion, no regeneration can occur and the relief from pain will be permanent.

The methods of injecting the second and third divisions of the nerve are shown (Fig. 3). After the needle strikes the nerve, the patient will complain of pain in the distribution of that nerve. When the needle is properly placed, the injection of two or three drops of novocain will produce anes-

thesia in the corresponding skin area. The position of the needle having been proved correct, about 1 cc. of specially prepared alcohol is slowly injected. The relief from pain by this method may be expected to last from six to eighteen months.

For anatomic reasons, injection of the first division is not practicable. However, its terminal branch, the supraorbital nerve, may be injected and will relieve pain limited to its distribution over the forehead.

Figure 4 illustrates the operative approach to the posterior sensory root. When this is sectioned, the nerve fibers never regenerate and the relief of pain is permanent. Often, only a partial section of the sensory root will suffice, cutting just the fibers corresponding to the divisions in which pain occurs. The motor root is not sectioned; so there is no paralysis resulting from the procedure. Since the incision is made within the hair-bearing area, there will be no visible scar.

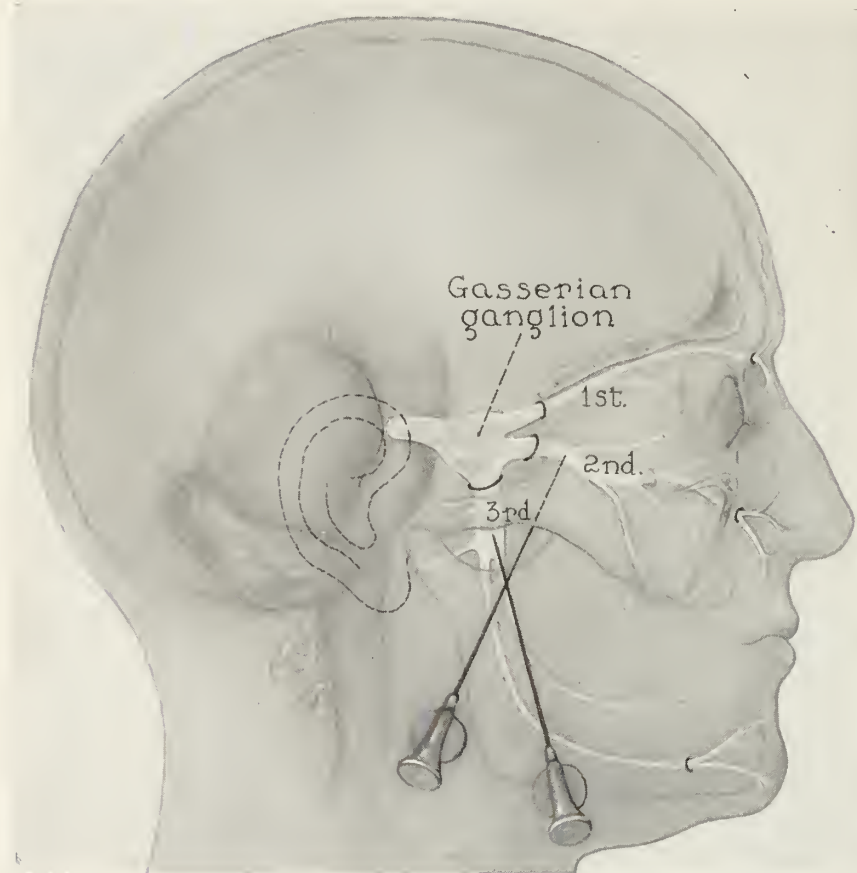


Figure 3

The appropriate branch of the trigeminal nerve may be injected with alcohol. This will give temporary relief.

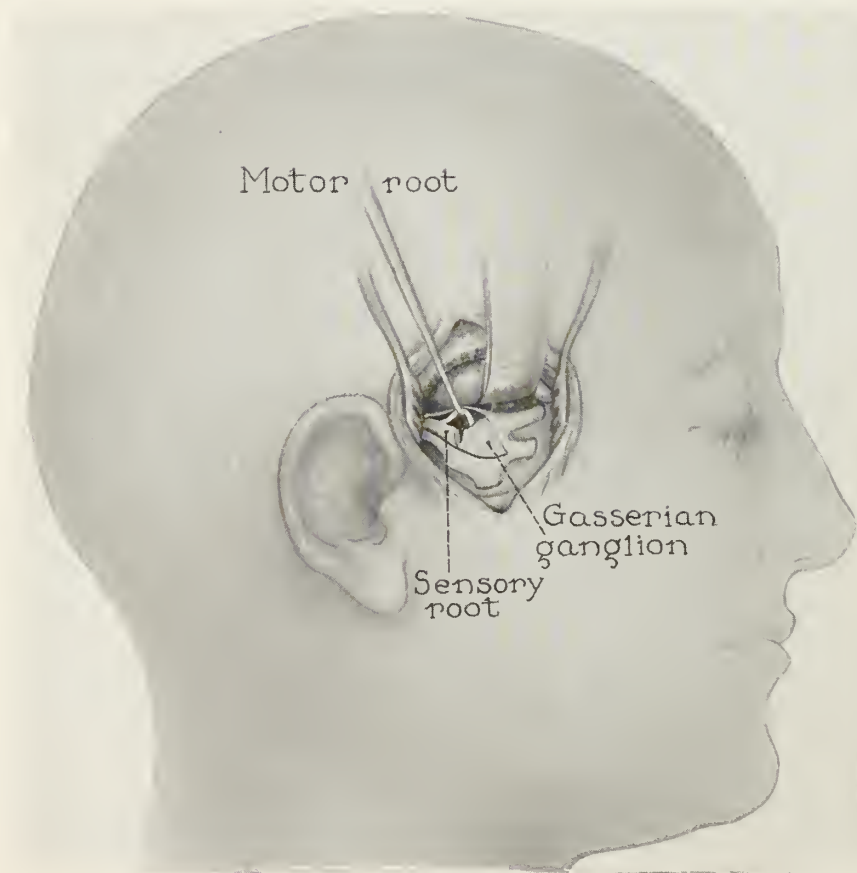


Figure 4

The ideal treatment is section of the posterior sensory root. This affords permanent relief, and since the motor root is spared, there is no resulting paralysis.

The operation is performed under local anesthesia. Despite the fact that many of the patients are aged and in poor general condition, the operation can be performed with almost complete safety. The mortality is less than 1 per cent.

478 Peachtree Street, N. E.

CONCERNING BILIARY TRACT DISEASE*

Special Reference to Acute Cholecystitis

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In undertaking a discussion of this subject, I am reminded of an excellent presentation recently given the Fulton County Medical Society by Dr. Hugh Wood, under the title "What We Know About Hypertension." After a masterly exposition Dr. Wood finally concluded by stating that he might have used as his title "What We Don't Know About Hypertension." In like manner, instead of undertaking to discuss the broad principles involved in the management of biliary tract disease, I might limit my remarks to "What to Do or Not to Do About Acute Cholecystitis." It would be easier to proceed from this standpoint, since there immediately come to mind two factors which should always be kept before us in our efforts to serve patients suffering from this common malady.

The first of these concerns the matter of the incidence of biliary tract disease, or more particularly gallbladder disease. Contrary, I think, to our usual concept, disease of the gallbladder is a very common condition. For instance, Mentzer² says that among 612 specimens examined at post-mortem 62 per cent showed grossly visible disease of the gallbladder. If young persons are omitted this would indicate that 66 per cent of all those more than twenty-one years of age who come to necropsy have gallbladder disease. Many serial studies at autopsy reveal the presence of disease of the gallbladder in 60 per cent of the subjects examined.

Blackford³ found disease of this viscus to be the most common organic cause of dyspepsia—twice as frequent as gastric cancer and peptic ulcer combined. It is interesting, also, to note that there is wide divergence between the clinical diagnosis of the disease and its pathologic diagnosis. For instance, in one series of patients over twenty years of age, there was a clinical diagnosis of gallbladder disease in 6 per cent, whereas pathologic studies at routine autopsy show that 60 per cent of adults have cholecystopathies. Blackford³ quotes Mentzer² as saying that only 15 per cent of his cholecystopathies found at necropsy had given clinical evidence of gallbladder disease.

Thus it develops that only a small percentage of sufferers from this disease have clinical symptoms in life sufficient to cause them to consult a physician.

The second factor concerns the matter of morbidity and mortality. In this connection it appears to me to be a healthy sign in American surgery that more attention is now being paid to mortality statistics and less to the elaboration of surgical technic. The end devoutly sought in surgery is the cure of the patient. Every patient lost or every patient who, after operation, continues to suffer from annoying or disabling symptoms erects a serious stumbling block in the path of surgical progress.

The late Dr. Rufus T. Dorsey, in writing of gallbladder disease, said: "The greatest regret of surgery from the mortality standpoint is brain tumor surgery—most of these patients die, and this, while perhaps fortunate, is a sorrow. The greatest reproach of surgery from the morbidity standpoint is the surgery of so-called appendicitis. Too many fail to get relief, and this charges the profession with complacent mediocrity. The greatest reproach from the mortality standpoint is gallbladder surgery. Too many die or are not cured, and this outcome should provoke shame, because it convicts the profession of lack of application of knowledge which is now generally available."

What to do, then, about acute cholecystitis? Perhaps one had best say that one

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thing not to do is to fail to remember that biliary tract disease, frequently eventuating in acute cholecystitis, is relatively common, and secondly, that the management of the disease, although constantly improving, is still fraught with high mortality and a discouraging morbidity.

Time will not permit of a detailed discussion of the subject of chronic cholecystitis, or of cholelithiasis, but it seems pertinent, in view of the fact that these more or less quiescent conditions of the gallbladder precede the onset of acute disease, that a few remarks be made concerning them. The whole matter of biliary tract disease necessarily must be approached from the standpoint of pathologic changes, in regard to which there are two schools of thought. One believes that gallbladder disease is always secondary to a breakdown in the normal physiology of the liver, wherein there is inadequate secretion of bile salts and fatty acids to keep the bile pigment and cholesterol in solution. When such a breakdown occurs, stones form in the gallbladder as a natural consequence. There is another school who believe that infection in the biliary tract precedes the formation of gallstones and is as well responsible for chronic and acute cholecystitis. Upon the first concept the management or treatment of biliary tract disease would, in its early stages at least, be predominantly medical, since the condition involves a question of pathologic physiology. On the other, namely, that of biliary tract infection, and following the established practice of removing, in so far as is practicable, tissues harboring residual bacteria, the treatment would be predominantly surgical. But this matter, for our purposes at least, is one of academic interest. It can be said, I believe, that there is now more or less general agreement that a patient suffering from gallstone disease can be expected to get a cure in a high percentage of cases when the offending organ, with its stones, is removed. That such an operation should be performed as soon as the diagnosis is established, it seems to me, permits of no equivocation. This is true because if there is neglect, sooner or later there will be stones in the common duct,

which, interfering with proper drainage, will be followed by infection, with the grave consequences which follow such deep disease in the liver. It is to be borne in mind, too, that cancer of the gallbladder is not an infrequent disease, said by some authors to furnish 10 per cent of cancer seen in women. Stones in the bladder practically always precede the development of carcinoma in this viscus.

With respect to the surgical treatment of chronic cholecystitis, one cannot speak with enthusiasm. One can say, however, that when a definite diagnosis of infection in the gallbladder, producing reflex indigestion and interfering with the entrance and egress of bile, is made, operation should be seriously considered. One is deterred, though, from resorting regularly to operative treatment because of the fact that some 40 per cent of such cases following surgery continue to give about the same chain of symptoms as were complained of before operation. Speaking of chronic cholecystitis, Graham and Mackey report a series of 114 cases, in which there was satisfactory improvement in only 60 per cent after cholecystectomy. Nor did the study of these cases by cholecystograms make it possible to identify the cases that would respond favorably over those that would not respond. Many authors have reported similar unsatisfactory series, so that one must in fairness say that for the present the surgical management of so-called chronic cholecystitis is approached with a great deal of trepidation.

I have referred briefly to cholelithiasis and to chronic cholecystitis, since both these conditions, as previously stated, underlie the development of acute disease in the gallbladder. This leads me, then, to mention a third thing not to do, namely, do not permit a patient suffering with gallstone disease, or frank chronic cholecystitis, to neglect surgical treatment until there has developed upon the base of a more or less quiescent state the more dangerous malady of acute cholecystitis.

Coming now to speak with more particular reference of acute disease of the gallbladder, it seems advisable to classify the condition into two forms, namely, primary

acute cholecystitis and acute recurring cholecystitis.⁵ In the former class one sees an occasional case appearing as a complication of some general disease, like typhoid fever or pneumonia, or following soon after such bacillary diseases have subsided. Onset in these cases is sudden, with chills, fever, relatively high leukocytosis, and frequently early rupture of the gallbladder. These cases are equivalent to acute appendicitis, and the treatment should be the same, namely, prompt operation with removal of the gallbladder. A larger majority of the cases of acute cholecystitis, however, fall in the second classification; that is, they are acute manifestations predicated upon chronic cholelithiasis or chronic infectious cholecystitis. In this group there will naturally be found a previous history of either the rather typical syndrome of gallstone colic or the less diagnostic picture of indigestion of the type seen in chronic infectious gallbladder disease. The history in a given instance will usually record a number of previous flare-ups. Because this is true, surgery can usually be delayed. Certainly operation as an emergency is not regularly necessary, and yet in all acute cases the patient should be under careful hospital supervision, because in a certain number prompt operation will be mandatory or the so-called late immediate operation will be required. In order to illustrate the management of such cases I shall now give a brief review of a few typical examples from my personal files.

Report of Cases

Mr. M. L. H., aged 42, suffered with chronic sinusitis. There were frequent colds. He was seized suddenly with agonizing pain in the upper right quadrant of his abdomen, requiring morphine for relief. Severe pain persisted for 3 days, and he entered the hospital with localized tenderness over the gallbladder, with a palpable mass, a leukocyte count of 17,400, and a temperature of 101.5. After 24 hours the leukocyte count was 17,900, pain and rigidity persisted, there was nausea, and a flat x-ray study of the abdomen revealed a large pear-shaped shadow in the gallbladder area. Operation was done 5 days after the onset of symptoms, revealing a large, dusky red, markedly distended gallbladder, free from adhesions. The gallbladder was removed, and when opened was found to contain a number of stones, one of which was impacted in the cystic duct. The pathologic diagnosis was acute cholecystitis. Recovery from the operation was prompt, and in every way as smooth

as would have followed the removal of an acute appendix.

Mr. E. V. V., aged 49, had been suffering for 5 years with attacks of gallstone colic. He entered the hospital, having been seized suddenly some three days previously with pain in the gallbladder area, requiring morphine for relief. On admission the entire abdomen was quite rigid, with marked localization of soreness to the upper right quadrant. There was persistent nausea and vomiting. The leukocyte count on admission was 13,850, and 2 days later was 10,450. The admission temperature was 102 degrees, and the pulse 100. From day to day there was improvement, with less general rigidity, less fever, less pain, a lowering of the pulse rate, so that after a week in the hospital the temperature and pulse were normal, general abdominal rigidity had subsided, but soreness in the gallbladder area, with a moderate palpable mass assumed to be the gallbladder, persisted. Operation was done 10 days after the onset of the disease, revealing a markedly thickened and enlarged gallbladder, without adhesions to the adjacent viscera. The gallbladder was removed, and when opened was found to contain many faceted stones. The mucous membrane was, in certain areas, gangrenous. Recovery was prompt, and again as uneventful as follows operation for the average acute appendix.

Mrs. W. B. D., aged 54, had suffered on rare occasions over the past 20 years with typical attacks of gallstone colic. For a number of years she had been free from symptoms, suffering only occasional gaseous indigestion. At 1:00 a.m. she was seized with a sudden attack of epigastric pain, requiring morphine for relief. Pain persisted. The following morning, nausea ensued, and further relief was necessary by hypodermic medication. She was seen in the afternoon of the day of onset, when there was moderate soreness in the gallbladder area, no fever, normal pulse. Pain persisted through the night of the first day, and nausea was marked. On admission to the hospital, 30 hours after the onset, the temperature and pulse were still normal, but rigidity had increased in the area of the gallbladder. The leukocyte count was 13,050. Due to the persistence of pain, increasing rigidity about the gallbladder area and persisting nausea, operation was done 36 hours after onset, revealing a markedly distended, purplish-red gallbladder, with a solitary stone impacted in the cystic duct. The gallbladder was removed, and the postoperative course was again uneventful, recovery being rapid and complete, with no more disturbance than follows the removal of a gallbladder for chronic cholecystitis or cholelithiasis.

These three examples serve, I think, as illustrative of the excellent results that may be obtained in the early removal of the gallbladder in the presence of acute cholecystitis coming secondarily on the base of a chronic cholelithiasis. It will be noted that one of these patients was operated on 36 hours after the onset of her illness, one after 5 days, and one in 10 days. This

variation in time of operation shows another fact which I think is now becoming more generally accepted, namely, that in order to properly treat acute cholecystitis every case must be individualized. While, as stated earlier, flare-ups in the course of chronic disease will, in the majority of cases, subside, operation should be temporarily delayed. There are examples, not rare, which because of failure to progress toward resolution must be treated by immediate or delayed immediate operation. When such operations are undertaken, it has been my experience in a number of instances that the gallbladder can be easily and safely removed. It is also my conviction that when cholecystectomy can be done it is the preferable procedure over so-called conservative gallbladder drainage. In order to illustrate the unhappy results which frequently follow treatment of acute cholecystitis by simple drainage, I desire to briefly review with you two or three cases falling in this category.

Mr. W. C. T., aged 22, had suffered with dull pain in the upper abdomen for about 1 year, which was increased by the taking of certain foods. There were attacks of sudden colicky pain felt in the epigastrium, radiating to the right shoulder and associated with nausea and vomiting. Some of these attacks had been relieved by hypodermic medication. On occasion there had been noted slight temporary jaundice. The patient entered the hospital, having been seized 3 days previously with a recurrent attack. On admission the patient looked sick, the temperature was 101 degrees, pulse 100, leukocyte count 18,000, and there was rather general muscular rigidity over the abdomen, with particular spasticity and tenderness in the gallbladder area. The patient was observed in the hospital over a period of 2 days, but symptoms persisted; that is, pain, fever, increased pulse rate, high leukocyte count, and rigidity in the upper right quadrant continued, so that 5 days after onset and 2 days after admission to the hospital the abdomen was opened, exposing a very large, thick-walled gallbladder, whose cystic duct was obstructed by an impacted stone. In this case, operated on many years ago, I feared to undertake an immediate cholecystectomy, although in the light of later experience I feel now that it could have been done with comparative ease. Consequently, the gallbladder was opened and a large number of stones removed, including one from the cystic duct. A tube was placed in the gallbladder and the abdomen was closed. Recovery was rather stormy for a few days, but finally the patient was dismissed some 14 days after operation, with a biliary fistula still persisting. The patient was seen from time to time over the following 8 months. It developed that the fistula

would open, discharge some mucus and close. This occurred on several occasions. At the end of about a year, although there had been no recurrence of gallstone colic and no jaundice, the patient re-entered the hospital because of annoyance from recurring attacks of mucoid discharge from the drainage tract. When the abdomen was again opened it was found that a small contracted gallbladder was tightly adherent to adjacent viscera, making cholecystectomy difficult. The gallbladder was removed, following which there was rapid rise of temperature to 106 degrees and then to 107 degrees, with collapse of the patient and death within 43 hours, with the syndrome associated with so-called liver death.

Mr. J. P., aged 34, suffered from double pneumonia in 1926. Seventeen months later he had an attack which he called acute indigestion. Following this attack there were recurrent episodes coming suddenly, usually at night, requiring hypodermic medication for relief. A few days before admission to the hospital the patient had an acute head cold, and about the time this subsided he was seized by an attack of acute epigastric pain, nausea and vomiting. He was seen within a few hours by a physician, who diagnosed his trouble as acute appendicitis and sent him to the hospital. When I saw the patient, less than 24 hours after the onset, there was general rigidity of the abdominal muscles, nausea and vomiting, the temperature 100 degrees, pulse 96, leukocyte count 16,500, and marked tenderness throughout the abdomen, with particular rigidity and tenderness over the gallbladder area. Immediate exploration of the abdomen was done on a provisional diagnosis of ruptured appendix. However, on opening the abdomen a gallbladder, free from adhesions and stones, was found to have ruptured, with diffusion of bile throughout the abdominal cavity. A drain was placed in the gallbladder, and the abdomen closed. The postoperative course was stormy, but finally the patient made a satisfactory recovery, leaving the hospital at the end of the third week. This patient, like the one cited immediately above, was seen from time to time over a period of several months. His history, like the other, was that his wound at the drainage site would close, and after several days or several weeks would become sore and spontaneously open, draining a considerable quantity of mucoid discharge. This condition persisted, although the patient had no further attacks of epigastric colic. At the end of a year following the first operation the patient was readmitted to the hospital in apparently satisfactory condition for cholecystectomy. The abdomen was again opened and the gallbladder was found remarkably free from adhesions to adjacent viscera. Removal of the gallbladder was technically easy; there was no difficulty in isolating separately the cystic duct and the cystic artery. The operation was short, and the patient was returned to bed without shock. Soon thereafter, however, the temperature began to rise and continued to go higher and higher, the patient going into collapse and dying within 48 hours with the syndrome recognized as that of liver death.

Mrs. C. V. V., a physician's wife, aged 35, entered the hospital for her first admission in September, 1925. Her history was to the effect that some three years previously,

and following soon after the birth of a child, she suffered with pain and soreness in the upper right quadrant of the abdomen, associated with indigestion and nausea and vomiting. Indigestion was provoked by taking of certain rough foods, and particularly of fatty foods. She had a great deal of gas in the bowels. From time to time there were acute attacks of epigastric pain with nausea and vomiting, and with temporary fever. When she entered the hospital she was suffering from such an attack, had a temperature of 99 degrees, pulse 100, leukocyte count 13,050, tenderness and spasticity of muscles in the gallbladder area. Operation was done on the first day of admission, which was some 7 days following the onset of the present attack. On opening the abdomen the gallbladder was found markedly distended, red in appearance, without adhesions. On exploration there was thick, creamy pus. A tube was placed in the gallbladder for drainage and the abdomen closed. Recovery was somewhat stormy, but nevertheless uneventful, the patient leaving the hospital about the end of the third week. She was kept under observation, and again it was noted that the drainage wound would close for a few days, to be followed by soreness and spontaneous opening, with the drainage of a mucoid secretion. Some 4 months after operation the patient was readmitted to the hospital, at which time there was no open fistula but generalized abdominal pain, nausea, vomiting, marked general rigidity of the abdominal muscles, a leukocyte count of 19,000, temperature 101 degrees, pulse 110. It was obvious that the patient was suffering from some acute condition requiring surgical intervention, consequently within 24 hours after the onset of the attack the abdomen was opened. The gallbladder was found ruptured at the point where previously a drainage tube had been placed, and the abdomen was filled with bile. A tube was again placed in the gallbladder, and likewise a tube through the posterior vaginal fornix, draining the pelvis through the vagina. Recovery was complicated by considerable fever for several days, by a good deal of nausea and vomiting, but gradually the symptoms subsided, and after some 4 weeks in the hospital the patient was again dismissed.

In May, 1927, some 13 months after her second operation, at which time a ruptured gallbladder was found, the patient was admitted for her third hospitalization, stating that she had continued to suffer from indigestion, attacks of pain in the upper right abdomen, nausea and vomiting. Because of the persistence of indigestion and localized soreness about the gallbladder area, and because of the presence of an incisional hernia in the upper abdomen, the patient decided to come in for a cholecystectomy. On admission there was no generalized abdominal rigidity, but only localized soreness. The temperature, pulse and leucocyte count were normal. The patient was prepared for operation, and on opening the abdomen the gallbladder was found very small and fibrous, and imbedded in dense adhesions. With considerable difficulty the gallbladder was removed, together with repair of the incisional hernia and drainage of the gallbladder fossa. Following this the patient made a satisfactory, smooth recovery, with firm closure of the wound and without further fistula formation, but with only partial relief of her chronic indigestion.

In the three histories just cited, it will be noted, there were two examples of rupture of the gallbladder. In one persistence of a recurring fistula at the drainage site made removal of the gallbladder necessary, and when it was removed death promptly followed, the type of death being that spoken of as "liver death." Another was found to have a rupture of the gallbladder 4 months after simple drainage for acute cholecystitis. This patient survived operation for the treatment of gallbladder rupture, and some months later survived cholecystectomy. The third patient, treated by simple drainage of the gallbladder, had a persistent fistula, requiring cholecystectomy later, and this patient, too, died within 48 hours after operation from liver failure.

This series of cases, three of acute cholecystitis, treated by rather prompt cholecystectomy, with easy recovery from operation and permanent relief, and three of acute cholecystitis treated by conservative drainage of the gallbladder, two of whom subsequently died following cholecystectomy and the third requiring two subsequent hospital admissions and finally a cholecystectomy before she was partially relieved, definitely suggest, I think, the superiority of prompt cholecystectomy in cases of acute cholecystitis over that of conservative management. Certain further conclusions may be permissible.

Two examples of rupture of the gallbladder into the free peritoneal cavity are reported. Although my experience in the handling of acute disease of the gallbladder has not been particularly large, these are sufficient to suggest that rupture of the gallbladder is not an infrequent complication. The second point bears upon the question of difficulty encountered in removing the gallbladder in acute disease. My experience has been that the gallbladder can be removed with greater ease and safety in the presence of acute disease than when it is contracted and bound down by numerous adhesions to adjacent viscera. A third point suggests the danger inherent in secondary operations on the gallbladder following soon after acute disease. I believe this danger is explained by permanent damage to

liver function suffered over a period of many months, or years, sequential to localized infection.

The treatment of acute cholecystitis must necessarily be based upon the pathologic changes present. When there is primary obstruction of the cystic duct by stone or by edema causing pressure on the duct and the cystic artery, there is early necrosis of the gallbladder wall occurring frequently within 24 hours, and subjecting the patient to the dangers of rupture. In this group cholecystectomy should be done without undue delay, after which recovery is prompt and usually without untoward events. In patients with stones, where infection has entered secondarily, primary cholecystectomy is fraught with greater danger. Here the rule should be to permit recovery from the acute attack, but it must be borne in mind that these patients are to be carefully watched so that prompt intervention may be practiced if the attack does not readily subside. The necessity for surgery will be indicated by persistence of localized rigidity, continuing nausea, unremitting leukocytosis, together with other general evidences of an unresolving process. In such cases one should not hesitate to operate promptly and to remove the gallbladder, unless there are technical difficulties or other considerations which make such a course untenable. It is to be stressed that there is need for a clearer understanding of the pathologic changes associated with acute cholecystitis.⁷ Since this process varies in a given series of cases, the treatment is likewise to be varied. Individualization is necessary, and before any operation is done in the presence of acute disease careful blood chemistry studies are in order as a helpful factor in the selection of the opportune time for operation. All such patients must be prepared by the giving of adequate glucose, stabilization of fluid balance, and in the presence of jaundice the free administration of blood transfusions in order that prothrombin deficiency, resulting from liver damage, may be complemented. Troublesome hemorrhage occurring at the time of operation or during the convalescent period has long been a prominent factor in defeat-

ing the surgeon's efforts directed toward relief of the jaundiced patient. Hemorrhage results from interference with normal clotting time—a phenomenon which has been favorably influenced in the past by preoperative administration of calcium chloride and the transfusion of blood. With the discovery that prothrombin deficiency in the jaundiced patient was responsible for the hemorrhagic tendency and that this substance disappeared, in dangerous proportion in patients suffering from obstructions of the common duct, the next logical line of research was to seek measures which could be depended upon to supplement prothrombin deficiency.

In 1935 Quick, Stanley-Brown and Bancroft⁹ showed that a definite relationship existed between a deficiency in prothrombin and hemorrhagic diathesis in jaundice. They cited evidence to prove that in the presence of biliary obstruction the only substance lacking for proper coagulation was prothrombin. About the same time Hawkins and Brinkhaus found that experimentally produced prothrombin deficiency in dogs could be corrected by feeding such animals bile, and emphasized, therefore, the necessity of bile being present in and absorbed from the intestine. Earlier Dam and his co-workers had demonstrated that internal subcutaneous and intramuscular hemorrhages developed in chicks fed on a diet deficient in certain fat-soluble compounds and that this hemorrhagic tendency could be promptly cured by the administration of vitamin K.

Thus it is now known that in order to maintain normal concentration of prothrombin in the blood, and thereby to control dangerous bleeding in operations upon jaundiced patients, two factors are necessary, namely, bile must be present in the bowel and an adequate supply of fat-soluble vitamin—vitamin K—must be maintained. Where obstructions of the common duct exist so as to produce persistent jaundice, any type of animal bile may be used—bile salts or human bile—administered either by mouth, through the duodenal tube, or after operation through the indwelling T tube. From one to four grams of animal

bile salts, depending upon the degree of prothrombin deficiency as determined by the blood-clotting time, must be administered daily. Vitamin K deficiency may be overcome by the administration of two hundred milligrams of alfalfa concentrate daily for three to five days preoperatively or, when necessary as an emergency after operation, by the giving of one to two grams of alfalfa concentrate orally or parentally.

The responsibility rests upon the family doctor to recognize gallbladder disease in the chronic stage and to protect his patient against future hazards by securing the necessary prophylactic operation. Surgery done in this stage will show a markedly lessened mortality and morbidity rate, since damage to the liver will be minimized. There are other considerations favoring operation in the quiescent stage, such as economic factors and the ever-present danger of development of cancer in the presence of gallstones. But notwithstanding the application of preventive surgery we are still to be confronted with acute cases. How can mortality and morbidity be improved? This can be enhanced by:

(a) Permitting acute cases to subside when they will.

(b) By proper preparation of the patient for operation, when it becomes necessary to interfere in an acute case.

(c) By adaptation of operative procedures to the requirements of the particular case, not hesitating to use the conservative drainage technic where there are technical difficulties making cholecystectomy hazardous. But simple drainage should be chosen only after weighing its weaknesses along with its advantages.

From the author's cited cases it would appear that mortality and morbidity are increased by the conservative operation. Certainly in this series cholecystectomy in the presence of acute disease proved a preferable procedure. In the operation of cholecystectomy Elkin⁷ has called attention to the fact that anomalies of the cystic duct and of the cystic artery, with variation in their position and the presence of accessory ducts and vessels, must be looked for. It is his opinion that these anomalies occur much

more frequently than is usually recognized. Elkin thinks that the ligation of anomalous arteries, particularly of the right hepatic artery, followed by necrosis of the liver, may be a common cause of so-called "liver death."

In summary, then, delay in operation in the treatment of acute cholecystitis should be the rule, always with awareness on the part of the surgeon that some cases will not subside. When such are encountered the patient should be individualized, properly prepared, and a carefully executed operative procedure carried out. In increasing examples in competent hands this operation will be cholecystectomy. Dr. Henry W. Cave,⁸ of New York, speaking at the recent session of the American Medical Association in St. Louis, in the symposium on "The Treatment of Biliary Tract Disease," said that best results and lowest mortality are seen in cases prepared over a period of some two to five days before operation is done, regardless of whether the condition is acute or chronic. Contrariwise, the highest mortality and the greatest morbidity follow those cases operated upon within a brief period of preparation. This is simply another way of saying that gallbladder disease or biliary tract disease is associated with altered physiology in an important organ of the human body, requiring careful understanding and proper evaluation if safe surgery in this territory is to be done.

In conclusion, I have assumed the obligation of providing an answer to the query, "What to Do About Acute Cholecystitis." Here the problem is not one of surgical significance until an acute phase is grafted upon that of a relatively quiescent process. Chronic biliary tract disease is by and large the responsibility of the family doctor. Since in neglected cases there comes a time when the pathologic process is not confined to the gallbladder but invades the deep biliary passages and the liver substance generally, it is obvious that there is an early period when operation might be expected to eradicate focal disease and a later period when this happy result cannot be achieved because of generalized liver disease.

My obligation, then, may best be discharged by telling you what not to do. Do not permit, through neglect or failure to exercise the prophylactic role which is enjoined upon you, a chronic disease which may become acute. In other words, insist upon adequate study and definitive treatment before the stage of acute disease. Look upon acute cholecystitis as you would acute appendicitis, and undertake to reduce its incidence and to modify its mortality and morbidity through insistence upon preventive surgery.

Here, as elsewhere, "an ounce of prevention is worth a pound of cure."

REFERENCES

1. Wood, Hugh: paper read Fulton County Medical Society, March, 1939. Unpublished.
2. Mentzer, S. H.: *Surg. Gynec. & Obst.*, 1926, vol. 42, page 782.
3. Blackford, John, and Associates: *J. A. M. A.*, vol. 101, page 910, read Milwaukee, 1933.
4. Dorsey, Rufus T.: notes on Clinical Lectures. Unpublished.
5. Rhodes, R. L.: transactions Southern Surgical Association, 1927, vol. 1, page 224.
6. Selman, W. A.: case reported by permission.
7. Elkin, D. C.: *J. M. A. Georgia*, July, 1939, page 275.
8. Cave, Henry W.: unpublished discussion at meeting A. M. A., St. Louis, 1939.
9. Walters, Waltman: *The Control of Hemorrhagic Tendencies. Surg. Gynec. & Obst.*, 1940, vol. 70, No. 2A, 308-318.

SYNTHETIC VITAMIN K FOR HEMORRHAGE

The control of hemorrhage in ten patients suffering from a deficiency of prothrombin, the blood clotting factor, by administration of a synthetic vitamin K is reported by Jonathan E. Rhoads, M.D., and Maurice T. Fliegelman, M.D., Philadelphia, in *The Journal of the American Medical Association* for Feb. 3.

The vitamin K substitute used is known at present only by its chemical name of 2-methyl-1,4-naphthoquinone. The results obtained by the Philadelphia men, they say, seem to confirm the high potency demonstrated for this compound in investigations on chicks. Three of the patients in whom a satisfactory response was obtained had failed to respond satisfactorily to various forms of vitamin K. In six cases the clotting time returned to normal within twenty-four hours or less after the initial dose of the substitute. The substance, the two doctors say, "appears to be the most potent agent for the treatment of prothrombin deficiency so far employed clinically. No toxic (poisonous) effects were observed in this group of patients."

NO DANGER OF INHALING SHAVED HAIR

There is no danger of inhaling hair from dry shaving, as the diameter of human hair is too great to permit successful inhalation, *The Journal of the American Medical Association* for March 16 declares in answer to an inquiry.

"Investigation of the possibilities has shown that one cannot cut segments short enough to be inhaled," *The Journal* says. "After prolonged attempts the project has been given up."

AUGUSTA*

From Trading Post to Medical Center

JOSEPH KRAFKA, JR., M.D.

Augusta

As early as 1716, a trading post existed on the Carolina side of the river known as Savannah Town. A profitable Indian trade was carried on from this point by overland trails to Charlestown. Oglethorpe, envious of this trade for the members of his own colony, gave the order for the establishment of Augusta in 1735 and placed a young captain, Roger de Lacy, in charge. The post grew rapidly under the influence of Kennedy O'Brian, an Irish trader who soon set up a warehouse to store the goods for the canoe trade on the river.

Little is recorded concerning the health of this section of the country except for an occasional record of a smallpox epidemic among the Indians. Even in and around Savannah, few accounts of medical practice are available for the colonial period. Dr. Hawkins, surgeon to Oglethorpe's regiment, left a few letters that describe his treatments, but nothing is known of his brother physicians except their names and political activities.

The first record of a physician in Augusta is for a grant made to Dr. Thomas Ford in 1759. He was paid the sum of £20, s. 10 for attending the Cherokee Indians. Jones states that Dr. William Day practiced here in 1760 but I find no record. The first autopsy in the colony was performed by Dr. Andrew Johnston who was paid £10 for examining the body of William Miller, who was shot ten miles above Augusta in 1766.

At the beginning of the Revolution, Drs. Johnston and Frances Folliott were commissioned in a company of Queen's militia but both remained loyal to the King and Folliott was requested to give up the Glebe House (parish house of St. Paul's Church) to be used as a hospital. There is no record of the eventual fate of Folliott, but Johnston and his colleague, Dr. Thomas Taylor, were

*From the University of Georgia School of Medicine, Augusta.

first banished and later amerced by the successful Revolutionists and were allowed to stay in the newly-formed State.

During the War, four patriotic doctors carried on their activities in and around Augusta, namely, Drs. Humphrey Wells, Nathaniel Brownson, Lyman Hall and James Dunwoodie. Wells was a local man who had purchased the grant of John Clechlar in St. Paul's, but the remaining three belonged to the group of Puritans who had settled at Midway. All were politically prominent. Hall was a "signer," Brownson was a Deputy Surgeon in charge of Southern Hospitals, Dunwoodie was a member of the local legislature and the first Surgeon General of the State Hospital. Of their medical practice we know nothing.

Immediately following the Revolution, Georgia was overrun by settlers from the Carolinas, Virginia and other states. They came in search of free land. The population rose rapidly (1791: 82,548; 1801: 162,680) and with it there was an influx of a new group of physicians. First among these was Dr. Cornelius Dysart. He probably came from North Carolina, since there is a record of a Doctor Dysart who purchased drugs from the famous patriot, Dr. Brevard of Charlotte. The first record for Dysart in Georgia is that for the purchase of 1,350 acres of land confiscated under the Banishment Act from William Manson in 1783. Dysart may have been well-to-do, but we suspect that the main source of his wealth came about through his marriage in 1784 with Elizabeth Chandler, widow of a local planter. Dysart settled on Bedford Village on the Washington Road, then three miles from Augusta, but now in the section known as Lakemont. His business must have been highly successful since in 1789 he was able to pay \$4,000 for a lot on Broad Street, and he had extensive holdings in the surrounding counties. In 1789, he took in as a partner, Doctor Dennis Smelt, a young man trained in England.

In the account book of Mr. J. V. T. Gardner, dated 1790, we have recently found a bill for professional services rendered by the firm of Dysart and Smelt and countersigned by William Cocke. The account

shows the character of the practice of the time. It mentions such items as drawing a tooth, reducing a fracture of the jaw, clysters, lead-water, lavender, anodyne boluses, camphor julep, blisters, red-bark. The second entry is of particular interest since it was for inoculating for the smallpox. There is no instance of the use of bleeding. This we might expect since Smelt wrote a paper against the practice in 1806.

The name of William Cocke, signed to the receipted bill, would indicate that he was apprenticed to the firm. A William Cocke graduated from the University of Pennsylvania in 1798 and settled in Savannah about 1800, where he became one of the first health officers of the State. I believe that this is the same man mentioned above.

The account book of Gardner gives a complete inventory of stock carried by a general merchant and in it are listed peppermint, bergamot, musk of roses, capillaire, mosquito gauze, temple spectacles, court plaster and catgut. Three doctors beside Dysart carried accounts with Gardner: Dr. John Murray, Dr. George Graves and Dr. Burke. All of these men were very successful, judged from their tax returns. In 1792 the drug stock of Murray and Tindale was listed on the tax digest as \$1,500, and Murray owned 1,850 acres of land. Graves had a house in Augusta and 800 acres in Columbia County. Burke may have practiced as far as Edgefield, S. C. He married the widow of Col. Benjamin Fishburn of Revolutionary fame. In 1809 these three men were each paying a professional tax of \$4.00 per year to the State.

The first fee bill. In 1797, Dysart, Smelt, Graves, Murray, John H. Montgomery and William Brazier, in association, signed and published a fee bill. They list separately fifty-one practices including lithotomy, \$50; trepan, \$40; midwifery, \$30. This was probably the first fee bill in the state to be published, and the association antedates the formation of the Georgia Medical Society of Savannah by seven years. The association, however, was short-lived. Dysart and Montgomery died shortly and their wills were probated in 1800. Since Dysart

and Montgomery were the leaders in the movement, the interest of the other men may have lapsed after their deaths. A Doctor Hull purchased the shop of Dysart in 1798 and began practice. Smelt seems to have died about 1828, but there is no note as to the fate of the partnership. Of Brazier, we know nothing. The firm of Montgomery and Bird, actively advertising for an unlimited quantity of pink root in 1792, soon passed out of existence.

Two other doctors were practicing in Augusta in 1800—Dr. George Sibbald, who left a memorial in a paper published on the health and climate of the pinelands, and Dr. Hugh Nesbit.

The next period is represented by a group of young men who for the most part were graduated from the University of Pennsylvania: Alexander Cunningham, Pa. 1816; Milledge Galphin, Pa. 1816; John Carter, Pa. 1817; Ed Brux, Pa. 1813; John Dent, Pa. 1814. Brux was born in Santo Domingo in 1769 and belonged to the group of emigrés which included the Dugas family and Dr. C. L. Beauregard. Brux died in Augusta in 1820 and a fitting epitaph was placed on his grave attesting to his scientific attainments by the Medical Society of Augusta.

Galphin was the foster son of Governor John Milledge. Milledge's first wife was a daughter of the famous old Indian trader, George Galphin of Silver Bluff, which probably accounts for the adoption. Milledge left certain lands and negroes to Dr. Galphin in his will. Galphin died in 1822.

Carter was a charter member of the Augusta Medical Society founded in 1822 and was on the original board of trustees of the Medical College. He was present when Dugas operated on a patient for cancer under the influence of mesmerism in 1846. Cunningham was the vice-president of the Augusta Medical Society and in 1833 was appointed Professor of Medicine in the College. Dent was a member of the Board of Physicians, Trustee of the Medical College and the Professor of Medicine in 1830.

Three men, who may or may not have been graduate M.D.'s, were Dr. John Powell (born in Virginia, 1748; died in Au-

gusta, 1826), Dr. J. G. McWhorter (born 1788, died 1852), and D. Anderson Watkins.

Dr. Watkins was the leader of the Augusta group, which in 1822 formed the Augusta Medical Society which included Cunningham, Milton Antony, Thomas J. Wray, W. T. Young, William Savage, John Dent, B. D. Thompson and Thomas Fendall.

How long Watkins had been in Augusta is not known. He made a tax return showing considerable property in 1807. His medical stock alone was valued at \$500. He was a member of the Board of Physicians, chartered to examine candidates for license in 1825. He died in 1828. There seems to have been some rivalry between Watkins and Antony. Antony, coming to Augusta in 1819, was probably the moving spirit in the organization of the local society, but Watkins was chosen president, and the next year Antony is marked resigned in the minutes. This may, however, be accounted for on the basis of Antony's activity in organizing the Board of Physicians of which he became president in 1825, and the Central Medical Society of Milledgeville in 1827, and the Medical College in 1828.

Of the other original members of the Medical Society of Augusta, Wray was born in Virginia in 1781, died in Augusta 1851; William Savage made a tax return from Lee County in 1829; B. D. Thompson, physician to the city hospital, 1823. No information is available on Young and Fendall.

The subsequent history of the medical profession of Augusta has been written several times, including the accounts of Goodrich, Fort, Mettler, McGahee, Traylor, Kelly, and others.

There is one point, however, which needs to be emphasized, namely, the state-wide distribution of the men who made up the Medical Society of Augusta, the Board of Physicians, the Central Medical Society and the Trustees of the Medical College.

The Medical Society of Augusta increased its membership in 1830 to include Ulrich Clarke, Randolph Bradford, Sam Holt, Paul Eve, Alfred Howard, John Gardner, J. B. Walker, F. M. Robertson, L. A. Dugas, Isaac Bowers, C. Patterson, Lewis

Ford, all of Augusta. In addition, there was Dr. Lewis Kennon of Louisville, A. C. Baldwin of Burke County, and Charles Sturgis of Carroll County.

The foregoing were all contributing members who paid annual dues of \$5.00. The honorary list included Joel Abbott of Monticello, preceptor of Anatomy, and a member of the National Pharmacopeia Board; member of Congress; Nicholas Childers of Macon, an antiquarian of repute; Charles Meigs of Athens, graduate of the University of Pennsylvania, 1817; Alexander Jones (Pa. 1822), of Lexington; Lem Kollock and W. C. Daniell of Savannah; Saw Harlowe of Waynesboro; Henry Branham of Putnam; Sam Boykin (Pa. 1817) of Milledgeville; Henry Jackson (Pa. 1802). As an honorarium for their old teachers, they included the names of Nathaniel Chapman and William Gibson of the faculty of the University of Pennsylvania; N. Potter and J. B. Davidge of the University of Maryland; and Drs. S. H. Dickson, John Holbrook, E. Geddings and Henry Frost of the University of South Carolina.

Membership requirements for the society were first set as graduation from a reputable medical school or four years' successful practice. The specific purposes listed in the constitution were to encourage consultation, private settlement of differences among physicians, discourage quackery, gratuitous treatment of the poor, professional courtesy to the profession and to the clergy, and the establishment of a uniform set of fees. In 1829, membership rules were changed to include licentiates of the Medical Board, and in 1830, students were admitted to meetings to hear medical problems discussed. After the founding of the Medical College in 1828, the Society was largely absorbed by the faculty of that institution, but it had already served its purpose in enlisting the interests of a group of men throughout the State in the founding of a State School. Of the 23 members of the Board of Trustees of the College, only five were Augusta men: Drs. Milton Antony, John Dent, John Carter, Lewis Ford and Ignatius Garvin. The others were: W. R. Waring, James Screven, W. C. Daniell, Sa-

vannah; Benjamin A. White, Sam Boykin, Milledgeville; Walter Weems, Washington; W. P. McConnell, Walthourville; Thomas Gorman, Forsyth; W. P. Graham, Tomlinson Fort, Clarke County; Henry Hull, Athens; O. C. Fort, Twiggs County; Richard Banks, Elbert County; Thomas Hamilton, Clinton; Nathan Crawford, Columbia County; John Walker, Madison; Alexander Jones, Lexington; Thomas Hoxey, Macon; John J. Boswell, Eatonton. It was quite probable that the location of the College in Augusta was due to the hospital facilities available here at that time.

One other point worth mentioning here is that of the 23 members of the Board, 13 were graduates of the University of Pennsylvania.

It is apparent from the above list that the membership of the Board of Trustees was largely made up from the Board of Physicians, established by law in 1825 for the purpose of examining candidates for state licenses. That board included T. Fort Antony, Screven, White, Weems, Graham, Hamilton, Daniell, Dent, Gorman, Jones and in addition, Charles Davis of Darien; A. Watkins, Augusta; Southworth Harlow, Waynesboro; Ambrose Baber, Macon; Norburne Powell, Monticello; John Gerdine, Athens; A. B. Redby, (?); W. N. Richardson, Elbert County. Their experience in examination of candidates showed them the necessity for a state school. In 1829, 16 licenses were granted on certificate from such schools as Pennsylvania, 9; South Carolina, 4; Transylvania, 1; New York, 1; and Bowdoin College in Maine, 1. Twenty-three men without degrees were examined and upon presentation of theses were licensed. The preceptor system was still largely dominant, and the formation of a school was imminent.

At the second meeting of the board it was decided to organize a Central Medical Society made up of the members and ten additional physicians. This constituted in fact a State Medical Society. In 1828, Dr. Hull presented a paper on Endemic Jaundice and Alex Jones one on Malaria. The discussion of the latter was carried on for two days. In 1829, Hubbard gave a paper

on the treatment of fever; Weems, on Paralysis following the application of arsenic to cancer; Hoxey, on a Hairy Tumor of the Rectum; Banks, on Fungus Hematodes.

This society seems to have prospered for a time and then dissolved. Arnold, in his Letters, says that it was abandoned when in 1835 the Legislature repealed the license act of 1825 and legalized the Thompsonian practice. Antony, Miller, Eve and others wrote many editorials exposing the dangers of the practice and the first law was repassed in 1839, but another state society had to await the formation of the American Medical Association in 1846, when the old leaders, Ford, Hoxey, Arnold, Dugas, Carvin, Eve, Campbell, Kollock, Green, Simmons, Richardson, Ogilby and others formed the State Medical Association in 1849.

To round out this account of the medical history of Augusta, a brief summary of the evolution of medical education is in order. Except for the first year, the Medical College of Georgia (now the University of Georgia School of Medicine) had required two courses of study. An early adoption of six months' terms had to be abandoned in 1838. No material improvement was made for many years. In 1855 Dugas complained that the general level of medical education was lower than it had ever been. In 1858 only one term was required by the American Association, but the College continued on its two-year program. After the Nashville Convention, Dean Geddings refused to adopt the three-year plan in 1890, but in 1893 the change was made, followed by an extension to four years in 1901.

Hospital instruction had been available from the inception of the College with clinics in the City Hospital in 1833; Campbell's hospital for negroes in 1852; Freedman's Bureau Hospital in 1869; Lamar in 1897, and the present University Hospital today.

Concerning premedical education, many early editorials appeared, but a high school diploma was not required until 1907. In 1913 the University at Athens offered a B.S.M. for two years of college work and two years of medicine, and in 1914 two years of college work were prerequisite

for admission. Under the present Dean, Dr. G. Lombard Kelly, the requirement has been raised to three years and the majority of candidates have the A.B. or B.S. degree.

Practical bedside instruction has always been emphasized. One of the outstanding technics in medical education to be developed here was that of Domiciliary Medicine, introduced by Drs. Kelly and Phinizy. Under the present administration, emphasis is put strongly on research by members of the faculty and several new departments have been created to forward this program, namely, in tuberculosis, neuro-surgery, psychiatry and anesthesia. The objective of the institution, backed by the support of the Board of Regents of the University System, is to bring the school back to the high standard of leadership which it held in American Medicine one hundred years ago and to create in Augusta a real medical center.

SOME MEDICAL ASPECTS OF OPHTHALMOSCOPY*

C. K. McLAUGHLIN, M.D.
Macon

In the eye nature has provided us with a most unique organ. Here we have a microscope of 16 diameters power through which to study the living vessels of the eye in three dimensions. These vessels are a fair sample of the smaller vessels elsewhere in the body and often show evidence of vascular disease before it can be detected generally.

Before discussing the abnormal fundus it is essential that we have an understanding of the normal fundus. As we look into the eye with the ophthalmoscope, the most prominent landmark which we see is the nervehead or disc. This is best seen by having the patient look a little up and slightly to the left for the right eye and up and to the right for the left eye. The disc is pink in color, being paler on the temporal than on the nasal half, and contrasts readily with the red background of the fundus.

*Read before the Bibb County Medical Society, Macon, Jan. 16, 1940.

The outline of the normal disc is clear cut and usually shows two rings at its margin, the outer pigmented choroidal ring and the inner white scleral ring. These rings are usually incomplete or crescent-shaped.

The retinal vessels emerge from the disc a little nasally from the center, and divide dichotomously into numerous branches forming a terminal system. The arteries are of a bright yellowish-red color while the veins are a darker wine or blue-red color. The arteries are about one-half to two-thirds the width of the veins and have a brighter and wider light reflex. The arteries usually cross above the veins and normally do not cause any compression and the outline of the vein can often be seen through the artery at the crossing.

The background of the fundus varies greatly with different individuals and particularly with different races and complexions. Negroes have a very dark fundus, blondes very light, and Orientals a yellowish tinge. The background may have an even or a tigroid appearance. However, the color of background of the fundus is not of very great importance in making a diagnosis of pathologic conditions.

The general conditions in which the fundus findings are most helpful are arteriosclerosis, renal disease and diabetes.

One of the first signs of arteriosclerosis may be spasm of one of the retinal arteries. This condition may affect the central artery or one of its branches. When the central artery is involved the vision in the affected eye becomes diminished or completely lost for a period of from several minutes to an hour or more. When a branch is involved the visual defect involves only a part of the field. Usually the restoration of sight is complete but occasionally there is a permanent defect in vision due to prolonged ischemia resulting in death of the affected retina. It is not often that these patients are seen during the spasm of the vessel because of its fleeting duration, but when they are seen we observe a slowing of the flow of blood marked by broken columns in the vessels. If the spasm is in the central artery it is usually below the level of the disc and not visible, but if it is in one of the branches

it can often be seen. If the spasm is of long duration there will often be edema of the retina characterized by a whitish appearance.

As the sclerosis advances and the vessel walls become thickened and rigid, very definite ophthalmoscopic evidence is manifested. The caliber of the blood column becomes narrower and somewhat irregular due to the subendothelial proliferation of the vessel wall. The light reflex becomes wider and brighter and gives to the vessels the so-called "copper-wire" appearance. At the arteriovenous crossings the veins are indented by the arteries and their outlines no longer show through the arteries.

As the arteriosclerosis becomes more advanced the veins are not only compressed at the site of arterial crossing but are also pushed aside giving a sigmoid appearance, and often the compression is so great as to cause an ampullaform distention of the vein distal to the crossing and narrowing proximal. In the severe sclerosis of the arteries it is rather common to find one or more of the small branches completely occluded and converted into white threadlike strands.

As the result of the diseased condition of the vessels, certain local complications may develop in the retina; hemorrhages are common and are usually of the flame-shaped type but are otherwise not distinctive. Small punctate exudates also occasionally occur.

In most of these cases there is a definite elevation of the systemic blood pressure. There is, however, a small group of cases where the blood pressure is not raised. These findings are of importance because they usually indicate the existence of a previous hypertension with a subsequent myocardial weakening or loss of vascular tone.

From the standpoint of prognosis the retinal vessels act as a fairly good guide to the general condition of the vascular system and especially to the condition of the vessels in the brain. Where the retinal circulation is poor and degeneration of the retinal tissue has taken place, it is reasonable to assume that changes of a similar nature have occurred or will occur to some extent in the brain.

There is a group of changes developing in the retina which is so characteristic as to be almost pathognomonic of nephritis and, with certain unimportant exceptions, it may be stated that their presence implies a nephritis that is already chronic. Retinitis occurs in about one-third of the cases with a definite nephritis, and in more advanced cases the incidence is higher. It occurs rarely in the very young.

The prognostic significance of this condition is of great importance. A patient seldom lives more than two years after the discovery of this type of retinitis.

When retinitis occurs in association with pregnancy, the patient not being the subject of nephritis, the prognostic significance is not so grave.

As the kidney disease progresses in severity so does the blood pressure become increased and also there is an increase in the frequency of retinitis.

The ophthalmoscopic changes in nephritic retinitis may be divided into (a) exudates (b) edema and (c) hemorrhages. Of the exudates there are two chief types, the first, the so-called "cotton wool patches," are due to a general infiltration of all the retinal layers with a fibrinous exudate. These give the appearance of fleecy-looking patches and obscure the retinal vessels. The second type of exudate is found in the macular area and is the so-called "star-figure." This is produced by the development of hyaline exudate in the outer molecular layer of the retina.

Edema of the tissues of the retina is really an integral part of the foregoing changes. The disc is usually swollen. The edema of the retina may be so great as to burst through the external limiting membrane and cause detachment of the retina. Retinal hemorrhages occur constantly in renal retinitis and are usually flame-shaped, but otherwise are not distinctive.

When retinitis occurs in diabetes a raised blood pressure and vascular disease are usually present. There may also be albumen as well as sugar in the urine. Retinitis rarely occurs in young diabetics regardless of the severity of the disease. All of this

tends to indicate that the retinitis of most diabetics is really a condition caused or complicated by factors other than diabetes.

There is, however, a type of retinitis occurring in diabetics which is so characteristic that we almost have to classify it as diabetic retinitis. In these cases the exudates are clear-cut in outline, solid and wax-like in appearance and are arranged in a circinate manner around the macula. The hemorrhages are small and rounded, because they occur in the deeper layers of the retina. Diabetic retinitis is rare under the age of 35 years. The prognosis is much less serious than in nephritic cases. However, the retinitis itself is little influenced by treatment.

Lipemia retinalis is the name given to lipemia in which the concentration of fat is sufficiently high (at least 5 per cent) to produce a visible change in the color of the blood vessels of the retina. It occurs only in young diabetic patients. The vessels seem to lose their contours and look flat. Those on the disc are often salmon colored, and elsewhere in the well marked case they have a pale yellow color like milk or cream. The sign is of grave import.

I have not attempted to give all the general conditions in which the ophthalmoscopic findings are of help, but have tried to present the three most outstanding in the hope that more interest will be stimulated in this method of investigation. An ophthalmoscopic examination is very important in many other conditions and I think should be a part of every complete medical work-up.

USE OF GLASSES FOR NEARSIGHTEDNESS

Whether a nearsighted person can do without glasses all the time depends to a great extent on his temperament. If he is the high-strung type of person who must see clearly all the time and who, intentionally or unintentionally, squints and strains to see distinctly without his glasses, then he must wear them constantly. If, on the other hand, he is an amiable, easygoing, placid or even phlegmatic individual who accepts blurred vision passively as the price he pays for going without glasses, he can usually use his glasses or not as he desires.—*Hygeia, The Health Magazine.*

THE PRESIDENT'S PAGE

STAMP ISSUE HONORING A
PHYSICIAN

March 30 is observed by the medical profession of this and other states as Doctors' Day in honor of the most illustrious of Georgians, Dr. Crawford Williamson Long, who for the first time in history administered ether for the purpose of rendering a patient insensible to pain during a surgical operation.

Traveling entertainers in Dr. Long's community frequently concluded their evening by administering laughing gas for its exhilarating effect. Dr. Long reasoned that ether would produce a similar effect, and his office soon became a popular place for "ether frolics." He noticed that injuries received by those under the influence of ether produced no pain, and believing that by the administration of ether a surgical operation could be rendered painless, he determined to prove this theory. This he did on Mar. 30, 1842, when he performed a minor operation with complete success.

He continued to use ether upon his surgical cases which, however, were of a trivial nature. He hoped to have some major cases in order to make a more convincing report, for he feared that with only minor cases he would be accused of using mesmerism, which was popular at that time. Even if he had been prepared to report his result it would have been difficult to have it published, because there were not more than four county medical societies in the State and there was no State Medical Association.

The opportunity to make his results public came in 1852 when he read a paper before the Medical Association of Georgia, which was founded in 1849. This report precipitated a long and bitter controversy. First Morton, then Jackson and Wells entered the list of claimants for the honor of discovering ether as an anesthetic agent. However, Morton did not use ether until four and one-half years after Long made use of it.

Morton had strong political backing which succeeded in passing a measure through Congress providing for the payment

of \$100,000 to the person who discovered the method of producing surgical anesthesia. The debate was long and acrimonious, and caused so much confusion that no decision was made as to whom the money should be paid. The tension was so great that Wells committed suicide, Jackson became insane, and Morton died a disheartened and disappointed man.

Dr. J. Marion Sims heard of Long's claims, and after making an investigation demanded that Long be recognized by the medical profession on his merits. So great was Sims' influence that distinguished medical men in all parts of the world hastened to give Long the credit which had so long been denied.

Long opened a new field of science with this demonstration of the power of ether for producing anesthesia to make surgery painless, and this was the first step of the three that constitute the basis for the marvels of modern surgery. Pasteur's findings were the second, and Lord Lister's discovery of antiseptic technic was the third step.

Members of our Association placed the statue of Dr. Long in the Statuary Hall in the Nation's Capitol, and the Fellows of the American College of Surgeons placed a plaque to his honor in a niche in the John B. Murphy Memorial in Chicago. On April 8, at Jefferson, the crowning honor will be paid Dr. Long when an issue of postage stamps dedicated to his memory and bearing his likeness will be placed on sale by the Postmaster General of the United States.

Such honors as these are rare indeed, coming as they do in memory of one who suffered slander and vituperation in life, only to have his claims accepted more than half a century after his death, and are unparalleled in medical history.

This unique distinction of having an issue of stamps made in his memory is the last chapter in a controversy that had lasted almost a century, and illustrates the words of Bryant: "Truth crushed to earth shall rise again."

WILLIAM H. MYERS, M.D.

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CHRONIC NON-TUBERCULOUS PULMONARY INFECTIONS

While pulmonary tuberculosis reigns supreme among the chronic infections of the lungs, there are other disorders of vast clinical significance which are listed under this caption. The outstanding of these are bronchiectasis, lung abscess and pulmonary mycoses. Demonstrable and proved syphilis of the lung occurs with such rarity that its inclusion in this discussion is not justified. Many observers of distinction even deny its existence as a clinical entity.

With widening experience, cystic disease of the lungs is being recognized more frequently; but it remains, fortunately, a comparatively uncommon condition. Cystic disease is usually a primary congenital disorder, but becomes the picture of pulmonary suppuration when secondary infection of the cysts takes place. This latter usually happens.

Pulmonary silicosis and asbestosis have loomed significantly upon the industrial horizon in recent years. They belong to the group of inhalant dust diseases—the pneumoconioses. They assume the characteristics of an infection only secondarily, and in the late phases. This superimposed infection is usually, and notably, tuberculosis.

Tumors of the lung, particularly bronchiogenic carcinoma, not infrequently are manifest as inflammatory disturbances. This development results from the obstructive atelectasis so common to new-growths in the lungs.

By far the most important of the chronic non-tuberculous infections of the lungs is bronchiectasis. Although the name would imply a disorder of the bronchial tubes, histopathologic studies of necropsy material demonstrate involvement of the parenchyma as well. The disease ranges from the very mild bronchial catarrh at one ex-

treme, to the advanced fetid gangrenous suppuration at the other. Many, if not most, of the cases of "chronic bronchitis" are actually cases of bronchiectasis. The widening, dilatation and sacculation of the bronchial tubes have been definitely revealed by the use of iodized oil injections. Bronchography—lung mapping by the injection of iodized oil into the bronchial tree—has opened up a new vista in the diagnosis of thoracic diseases. Well-established or advanced bronchiectasis is usually an incurable disorder; and only cured by such heroic lung surgery as lobectomy or pneumectomy. The less advanced cases may respond to the following measures: improvement of general hygiene; eradication of foci of infection in the upper respiratory tract, especially the para-nasal sinuses; postural drainage, vaccines, heliotherapy, tonics and vitamins. These patients do best in a warm climate. Intrabronchial injections of iodized oil—a simple office procedure—has afforded considerable benefit to these patients. Arsphenamine and bismuth are indicated in those cases showing the Vincent organisms in the sputum. Deep x-ray therapy has been used with indifferent success. The most important prophylactic measures are the proper attention during acute respiratory infections and the eradication of infectious foci in the sinuses. Advanced septic bronchiectasis, chronic abscess of the lung and pulmonary gangrene are often grouped together under the heading pulmonary suppuration. They are considered by many as stages of one and the same process.

Chronic lung abscess is one of the most discouraging conditions encountered among the chronic pulmonary diseases. With the chronicity, the hopes for a spontaneous resolution, as seen in cases of acute lung abscess, have faded. Surgery, and frequently extensive and repeated surgery, is required to effect a cure. At other times tube drainage suffices; but it is very important that such drainage be maintained a sufficient length of time. The conservative treatment consists of the several measures mentioned in the medical treatment of bronchiectasis. Bronchoscopic drainage and

lavage have proved very helpful but rarely curative. A large solitary lung abscess, readily accessible to surgical drainage, offers the best prognosis. The cases of multiple abscesses and those of the honey-combed or gangrenous lungs present a dismal outlook. Nature sometimes affords a happy solution when the abscessed areas rupture into the corresponding pleural cavity. Adequate drainage of the resulting empyema may then lead to recovery. Lung abscess most frequently follows unresolved pneumonia, operations upon the upper respiratory tract under general anesthesia and the aspiration of foreign bodies. The best prophylaxis is the proper attention to these provocative causes. The symptoms and signs of lung abscess appearing in an individual in the middle or latter decades of life, may be, and frequently is, due to bronchiogenic carcinoma of the lung.

The mycotic infections are being more and more recognized as the etiologic factors in chronic pulmonary disease. In many cases the fungus is merely a saprophyte in the lungs and plays no role in the clinical picture. In other cases, the fungus plays the role of secondary invader and modifies the clinical course of the primary infection in a varying degree. In still other instances the fungus is the primary cause of the pulmonary ailment. The chief characteristic of these mycotic infections of the lungs is their similarity to, and confusions with, other pulmonary diseases. This is notably true regarding pulmonary tuberculosis. In many cases, the symptoms, signs and even the x-ray findings may be identical with tuberculosis; and the only way to differentiate is by the sputum examination. The chief offenders among the fungi are the *Aspergillus*, *Actinomyces*, *Streptothrix*, *Sporotrichum*, *Blastomyces* and *Coccidioides*. The yeast fungus is commonly found in the sputum; but is rarely a cause of disease. Many of these infections respond nicely to large doses of iodides. The injections of iodized oil into the bronchial tree have proved helpful.

CHAMP H. HOLMES, M.D.

BUT THE GREATEST OF THESE

The physicians of the United States contribute millions to charity. They render service to the unfortunate without thought of recompense. In their relation to the layman they are, in all probability, more charitable than any other professional group. The physician's charity to the underprivileged classes is not merely that of generosity from a monetary standpoint, or rendering service without thought of fee. Regardless of the race, color, creed or financial status of the individual patient, it is to the family doctor that he turns for understanding, for kindness, for charity, for confession.

If the layman prompts a charitable response from the physician, why, in general, is the same physician so uncharitable to his fellow colleagues? Why is he so critical and so free to give voice to criticism? Why does he impugn the motives of his fellow practitioner when he is so understanding of the mistakes of the layman? Why is he frequently unkind and bitter to his professional brother, yet philosophical when provoked by a layman?

Probably the greatest source of unpleasantness between physicians is possession of patients. For some reason the physician has acquired the feeling that his patient is his chattel, and if his patient consults another physician, his chattel is stolen, and the battle is on. In squatter sovereignty "possession is nine points of the law," but in medicine possession can be retained only by virtue of the continued confidence of the patient in conscientious, skillful and understanding care. The question of medical ethics is frequently embarrassing to the patient, but regardless of ethics the patient is entitled to consult whatever physician he wishes, and his choice is based on confidence in the integrity and the ability of the individual doctor. In the oath of Hippocrates the physician swears by Apollo and Aesculapius to impart a knowledge of the art to disciples. The treatment accorded the young doctor who enters a community does not ordinarily comply with the Hippocratic oath, and charity and kindness do not characterize his reception.

The physicians of these United States have much to be grateful for. There is an abundance of work for everyone, and no one man can do all the work in his particular community. Harmony and understanding would prevail if the doctor would emulate the example of Paul, who taught, "Charity is patient, is kind; charity envieth not, dealeth not perversely; is not puffed up, is not ambitious, seeketh not her own, is not provoked to anger, thinketh no evil; rejoiceth not in iniquity, but rejoiceth with the truth."—*Journal of the Iowa State Medical Society*.

TEMPERATURE AND RESISTANCE TO COLDS

The role which extremes in temperatures play in reducing resistance to colds is explained in *Hygeia, The Health Magazine*, which states: "Overheating causes drying of the mucous membranes of the nose and throat, increasing the ease with which germs may invade it. Chilling may produce congestion in the nose and thus make it easier for infection to take place."

The Medical Association of Georgia will hold its next annual session at Hotel DeSoto, Savannah, April 23-26.

WOMAN'S AUXILIARY : OFFICERS 1939-1940

President—Mrs. Eustace A. Allen, 18 Collier Road, N. W., Atlanta.

President-elect—Mrs. H. G. Banister, Ila.

First Vice-President—Mrs. Lee Howard, 625 East 44th Street, Savannah.

Second Vice-President—Mrs. C. H. Richardson, Milledgeville.

Third Vice-President—Mrs. Loren Gary, Jr., Shellman.

Press and Publicity—Mrs. J. Harry Rogers, 134 Huntington Road, N. W., Atlanta.

Recording Secretary—Mrs. Cleveland Thompson, Millen.

Corresponding Secretary—Mrs. Olin S. Cofer, 948 Lullwater Road, Atlanta.

Treasurer—Mrs. R. A. Woodbury, Jr., 1232 Belmont Drive, Augusta.

Historian—Mrs. J. L. Nevil, Metter.

Parliamentarian—Mrs. L. W. Williams, 135 East 45th Street, Savannah.

BALDWIN HYGEIA WINNER

The Woman's Auxiliary to the Baldwin County Medical Society, of which Mrs. Charles H. Richardson is president, was awarded first prize in a national contest sponsored by Hygeia, the health magazine, published by the American Medical Association, for securing the largest number of subscriptions per member in the entire United States. Mrs. Richardson made the announcement at the March meeting of the Auxiliary, held at her home in Milledgeville, with Mrs. W. A. Bostwick and Mrs. George R. Echols co-hostesses.

With 21 members, the Auxiliary has 73½ credits to win the prize of \$35.00. Two other Georgia Auxiliaries winning honorable mention were Bulloch-Evans-Candler counties and Tift County. Mrs. Richardson, as second vice-president of the Woman's Auxiliary to the Medical Association of Georgia, is State chairman of Hygeia and has done exceptionally good work in urging the placing of Hygeia in libraries, white and Negro schools, beauty parlors and homes where there are young children. Mrs. J. R. S. Mays addressed the Auxiliary in a program of tribute to doctors, and Mrs. John Oden presented a program on Jane Todd Crawford.

Mrs. Richard Binion and Mrs. J. I. Garrard entertained the Baldwin Auxiliary at its January meeting at the home of Mrs. Binion in Milledgeville. Mrs. J. R. S. May reported on the recent meeting of the Woman's Auxiliary to the Sixth District Medical Society, which was held in Macon. Mrs. Edwin Allen spoke on "Public Relations in Health Education." Year-books were given to the members, and a social hour enjoyed.

TENTH DISTRICT

Dr. J. C. Patterson, of Cuthbert, president-elect of the Medical Association of Georgia, spoke on "The Need for an Auxiliary" as the feature of the meeting of the Woman's Auxiliary to the Tenth District Medical Society, held on February 14 at the nurses' home on University Campus in Augusta. Other talks were made by Mrs. Eustace A. Allen, of Atlanta, president of the Woman's Auxiliary to the Medical Association of Georgia, on "Fulfilling Our Objectives," and by Mrs. H. G. Banister of Ila, president-elect, on "Organization."

Mrs. C. M. Burpee, of Augusta, gave the invocation at the meeting, over which Mrs. D. N.

Thompson, of Elberton, district manager, presided. Mrs. R. C. McGahee, of Augusta, welcomed the guests, and Mrs. W. A. Johnson, of Elberton, responded. Mrs. Ralph Chaney, of Augusta, introduced the distinguished guests, who included Dr. Patterson, Mrs. Allen, Mrs. Banister, Mrs. R. A. Woodbury, of Augusta, State treasurer, and Mrs. C. M. Burpee, of Augusta, State chairman of Research in Romance of Medicine. A delightful musical program was given, including a piano solo by Mrs. Lane Allen, of Augusta, a piano duet by Mrs. Richard Torbin and Mrs. Eugene Matthews, of Augusta, and a piano solo by Mrs. W. A. Johnson.

During the business session a nominating committee, composed of Mesdames S. D. Brown, Ralph Chaney and H. G. Banister, was appointed. Reports were given by the following county presidents: Mrs. Eugene Matthews, Richmond; Mrs. H. E. Teasley, Hart; and Mrs. D. V. Bailey, Elbert. Resolutions were drafted by Mesdames Ralph Chaney, H. G. Banister and Joseph Akerman, on the death of Mrs. B. C. Teasley, charter member, past district manager, and active leader, were read and accepted. After the meeting luncheon was served at the George Walton tea room.

NATIONAL CONVENTION

It won't be long now before the Woman's Auxiliary to the American Medical Association will be convening at the Hotel Pennsylvania, New York City, for their 18th Annual Convention to be held June 10 to 11, 1940. Is your reservation in? We are sure you will want to stay at the headquarters Hotel Pennsylvania. In order to get a reservation, mail your request today to Dr. Peter Irving, Housing Bureau, Room 1036, 233 Broadway, New York City.

NEW AUXILIARIES

Three new county Medical Auxiliaries have recently been organized to add new members to the Woman's Auxiliary to the Medical Association of Georgia. These include the Woman's Auxiliary to the Glynn County Medical Society, with Mrs. J. W. Simmons, of Brunswick, as president; the Woman's Auxiliary to the Brooks County Medical Society, with Mrs. J. R. McMichael, of Quitman, as president; and the Woman's Auxiliary to the Spalding County Medical Society, with Mrs. T. O. Vinson, of Griffin, as president. Each of the new groups will

seek to enroll all eligible women in their respective counties.

SPALDING COUNTY

The Spalding Auxiliary was perfected at a recent meeting of the Woman's Auxiliary to the Fourth District Medical Society, held in Griffin. Mrs. Eustace A. Allen, of Atlanta, president of the State group, discussed the purposes of an auxiliary; Mrs. Kenneth Grace, of LaGrange, district manager; Mrs. J. Harry Rogers, of Atlanta, state press and publicity chairman, and Mrs. Enoch Calloway, of LaGrange, stressed the importance of an organization. Officers named to serve with Mrs. Vinson were Mrs. Thomas J. Floyd, vice-president; Mrs. J. T. Leslie, secretary and treasurer; Mrs. W. C. Miles, publicity chairman, and Mrs. D. A. Forrer, Mrs. Kenneth Hunt and Mrs. H. J. Copeland, advisory committee. Mrs. J. H. Jackson and Mrs. S. B. T aylor, both of Barnesville, were among visitors present.

FULTON COUNTY

The Woman's Auxiliary to the Fulton County Medical Society sponsored a most interesting health education program in February at the Academy of Medicine in Atlanta. Presidents and health chairmen of various organizations in the city attended the meeting, which featured informative talks by Dr. Clarence Laws on "Allergy and Hay Fever," and by Dr. Jack Norris, chairman of the milk committee of the society, on "Milk in Relation to Health." Dr. Glenville Giddings, chairman of the health education committee of the society, presided, and Mrs. Herbert Alden, chairman of the auxiliary's health education committee, introduced the speakers. Later luncheon was served, with Mrs. Bolling Gay and her committee in charge.

Dr. Frank Boland, chairman of the Fulton County Chapter of the American Red Cross, talked on the Red Cross and showed a film of timely interest at the March meeting of the Fulton Auxiliary, held at the Parish House of All Saints' Episcopal church. Mrs. Luther Byrd gave beautiful vocal selections, accompanied at the piano by Mrs. Mason Lowance. Mrs. Forrest M. Barfield, president, presided, and Mrs. Walker Jernigan, secretary, and Mrs. Ross Brown, treasurer, submitted their reports. Mrs. Raymond Wolff, president of the Atlanta Federation of Women's Clubs, was introduced and made a short talk. Mrs. Eustace Allen, of Atlanta, president of the Woman's Auxiliary to the Medical Association of Georgia, spoke on the approaching State convention in Savannah. Mrs. W. C. Waters, chairman of the hospital committee, told of the Valentine shower given the children at Grady Hospital. Other chairmen reporting were: Mrs. Linton Smith, cancer; Mrs. Joseph Yampolsky, periodical; Mrs. H. Cliff Sauls, decorations; Mrs. George Williams, legislation and citizenship; and Mrs. Hal Davison, co-chairman, scrapbook. Later luncheon was served with Mrs.

Calvin Stewart, chairman, and Mrs. A. B. Anderson, co-chairman.

A delightful affair of March 15 was the open house at which the Woman's Auxiliary to the Fulton County Medical Society entertained at the home of Dr. and Mrs. Olin S. Cofer as a compliment to the new officers of the society. Receiving were Dr. and Mrs. Cofer, Mrs. Forrest M. Barfield, president of the auxiliary; Dr. Barfield, Dr. Charles Rushin, president of the Society; Mrs. Rushin, Dr. and Mrs. Howard Hailey, Dr. and Mrs. Samuel W. Perry, Dr. and Mrs. J. G. McDaniel, Dr. and Mrs. Stephen T. Brown, Dr. and Mrs. Russell Burke, Dr. and Mrs. Thomas P. Goodwyn, and Dr. J. C. Weaver. Mrs. Bernard L. Shackleford, chairman of the entertainment committee of the Auxiliary, was general chairman of the party, assisted by Mrs. H. Cliff Sauls, decorations; Mrs. Gaston Gay, house; and Mrs. Murdock Equen, music. Miss Winifred Shackleford gave harp selections, and Mrs. Luther Byrd sang, accompanied by Mrs. Mason Lowance.

WARE COUNTY

Dr. Harold W. Muecke and Dr. Marvin Harris addressed members of the Woman's Auxiliary to the Ware County Medical Society at their recent meeting held in Waycross at the home of Mrs. Kenneth McCullough. Dr. Muecke, speaking on child welfare, stressed the fact that preventing disease is more valuable than curing disease, saying that the future welfare of the child lies in educating the public on matters concerning health. Dr. Harris spoke on hookworm, stating that it is undoubtedly the South's number one health problem and that 51 per cent of the white children of Georgia are infected with it and as a result become physically and mentally sluggish. He added that since the disease responds to simple treatment the real problem lies in enforcement of sanitary measures to prevent its contraction. Hostesses with Mrs. McCullough were Mrs. R. L. Johnson and Mrs. W. C. Hafford, and they served refreshments at the conclusion of the program.

HABERSHAM COUNTY

New officers of the Woman's Auxiliary to the Habersham County Medical Society are Mrs. Cyrus Sharp, of Alto, president; Mrs. D. H. Garrison, of Clarksville, vice-president; Mrs. H. E. Crow, of Alto, recording secretary and treasurer; and Mrs. O. N. Harden, of Cornelia, corresponding secretary. Committees are health education and film, Mrs. C. T. Hardman, of Tallulah Falls; press and publicity, Mrs. O. N. Harden, of Cornelia; Hygeia, Mrs. T. H. Brabson, of Cornelia; historian, Mrs. B. J. Roberts and Mrs. E. H. Lamb, of Cornelia; Doctors' Day, Mrs. Sharp, Mrs. Crow and Mrs. W. H. Garrison; research in romance of medicine, Mrs. D. H. Garrison. Members will compile a history of the deceased doctors of Habersham county. It was announced

(Forwarded to page 246)

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

GEORGIA'S TYPHUS CONTROL PROGRAM

As a result of the rapid increase from 57 reported cases in 1929 to 1,092 reported cases in 1937 of endemic murine typhus fever in Georgia, it became apparent that the disease was fast becoming one of our major health problems. Realizing the necessity of doing something toward the control of this disease, Dr. T. F. Abercrombie directed the divisions of Epidemiology and Sanitary Engineering to work out an effective program. In so far as we have been able to determine, Georgia is the first state to set up a program which involves epidemiologic study, clean-up and garbage removal, rat-poisoning and trapping, and rat-proofing in part and in whole.

In 1926 Maxey¹ reported his epidemiologic studies on this disease in Alabama and in Savannah, Georgia. He suggested the role of the rat and rat flea as host and vector respectively. This deduction arrived at by sound epidemiologic reasoning later was proved to be true. In so far as is known today, the rat and rat flea are the only reservoir and vector definitely established in this State. We who have had a part in the development of this program have had to grope our way along much as blind men have to do, since there were no beacon lights to follow. Holtzendorf's rat-proofing of ships and also of wharves has been of considerable help, as has been the experience of the U. S. Public Health Service in its fight against plague, which may be transmitted by the same rats and fleas. However, the rat-proofing of a ship is an entirely different matter from the rat-proofing of a town. Rat-proofing as it has been done in the past is a very expensive procedure; in fact, so expensive that it was impossible of accomplishment.

As a result of studies (as yet unpublished) and of general experience in working in this program, we have found that our greatest problem lies in the towns and villages, and is associated chiefly with the business areas, and in particular with grocery stores, feed stores, meat markets, and other places affording a plentiful supply of food and good rat harborage.

The program as it has been carried on involves an epidemiologic study of all cases occurring in a county in the two years previous to the investigation. While a study of this type is definitely of little value in relation to clinical typhus fever, it will give certain epidemiologic data which are of tremendous importance in effecting a successful control program. From this type of study, cases may be spotted on a map as to their place of residence, place of occupation, and other

places frequented at the time of illness. Not infrequently a definite history of flea bite can be obtained. The spotting of places by occupation usually follows certain patterns and often points to definite foci of infection. Often five or six cases may be traced to a given store. Investigation by the typhus control engineers usually reveals heavy rat infestation in the foci pointed out by epidemiologic investigation. Having definite concrete information as to the incidence of typhus and from where it is spreading is of material help in securing the cooperation of the city council. The big question then arises as to what can be done to control rats in order to control the diseases and also to minimize the enormous economic losses for which they are responsible. The first step in this program is the drive to clean up the town, including basements, rubbish heaps, piles of trash, and to stack lumber on racks above the ground in order to make it difficult for rats to find a hiding place. The next step is to institute proper garbage removal and the installation of water-proof garbage cans with tight-fitting lids on all premises. These two measures are most important since they make it difficult for the rat to hide and greatly reduce his available food supply. These measures alone will materially reduce the rat population. It is a well-known fact that rats will multiply only up to their available food supply.

The third point in the program is the use of poison bait and rat-trapping. When the program was first begun poison bait was used to a large extent. Many rats were killed but it soon became evident that this measure was a very temporary one. Rats being one of the most prolific groups of all animals, the rat population would reach its former level in three or four months and the job had to be done over. This meant three or four rat-baiting campaigns a year, which was found to be a rather expensive procedure. The vent stoppage program (to be discussed later) usually cost less than the price of two city-wide baiting campaigns in the same city. Rat-trapping is now employed only to measure the effectiveness of vent stoppage.

The fourth point in the program is the partial or complete rat-proofing of existing buildings and the construction of all new buildings so that they will be rat-proof.

In the studies which we have carried on in rat-proofing, we have found that the average building in Georgia towns may be rat-proofed for an amount varying from \$15.00 to \$100.00, the average cost being approximately \$25.00 per building. Since Mr. John Q. Public has been

standing a heavy economic loss over the years, due to the presence of rats, he has on many occasions been talked out of his hard-earned money by wandering Pied Pipers who would guarantee to rid his premises of rats. Consequently, it has been a difficult job to sell rat-proofing on a large enough scale to effect a control of endemic typhus fever from a community standpoint. This being the case, it was necessary to develop means whereby man could be separated from rat at a cost which each individual storekeeper was willing to lose in case our methods proved ineffectual. To this end Mr. Roy J. Boston of our Sanitary Engineering Division has developed a program which we speak of as vent-stoppage. Vent-stoppage is a part of rat-proofing and simply consists of installing 16 gauze sheet iron perforated with half-inch holes in all the vents in the buildings of an entire block. All other openings in the exterior walls of the building are closed with cement or cement and brick. All rear doors and low windows are made to fit tightly and are flashed with metal in order that rats may not find a gnawing surface. All open drains leading to the outside or into sewers are capped with perforated metal. This type of program is being accomplished in a number of towns in Georgia at the present time, the cost varying from \$2.50 to \$5.00 per building. While at this writing we consider the vent-stoppage program, as now applied, to be still in the experimental stage, we are confident that it is effective against the Norwegian or brown rat, since in the areas where it has been applied the rat population has been tremendously reduced and the incidence of typhus fever has declined remarkably. It would appear at the present time that we are on the way toward separating rat and man, at least in the business areas of our towns and cities.

During 1939, 1,135 cases of endemic typhus were reported to the State Department of Public Health. This is the largest number of cases in the history of the disease in Georgia. This increase represents spread of the disease, since substantial reductions have been brought about in Colquitt, Crisp, Decatur, Dougherty, Mitchell, Sumter, Turner, Telfair and Worth counties. These counties were among those having the heaviest infestation with rats and the greatest incidence of typhus in the State. During 1939, 406 field visits were made in 58 counties in the interest of this program. Sixty surveys were made in 16 counties and rat-proofing was applied to 30 buildings. In the vent-stoppage program, 9 municipalities (Camilla, Americus, Lakeland, Waycross, Hazlehurst, Butler, Sandersville, Bainbridge and Sylvester) applied this means of control to 431 business establishments at an average cost of approximately \$4.00 per building.

A coordinated effort begun in 1937 apparently has developed an effective cheap means of con-

trolling endemic typhus fever in the municipalities of this State. If successful, this method may easily be applied in order to curb the disease and possibly to prevent its extension into areas of the United States where the disease is not known to exist.

C. D. BOWDOIN, M.D., *Director*,
Division of Preventable Diseases.

BIBLIOGRAPHY

1. Maxcy—Public Health Reports, vol. 41, No. 52, pp. 2967-2990, Dec. 24, 1926.

BOOK REVIEW

Anesthesia, by A. M. Dogliotti, M.D., Professor of Surgery, University of Modena, with Authorized English Translation by Carlo S. Scuderi, M.S., M.D., F.A.C.C., Associate in Surgery, University of Illinois, College of Medicine; 680 pages; 17 tables and 236 illustrations, partly in colors, Chicago: S. B. Debour, Publishers, 1939.

Dr. Dogliotti has written the first Italian treatise on anesthesia, and it is especially interesting to have his viewpoint and approach to the subject, inasmuch as he is a master continental surgeon. He deals first with the historic background, and Crawford W. Long is given his rightful place as the discoverer of ether anesthesia.

The pathways of sensibility are described and the physiopathology of pain reviewed with its practical applications. Each anesthetic agent is discussed separately and in detail with its respective advantages and limitations. He recommends the use of inhalation ethyl chloride as an anesthetic for short duration anesthesia.

The chapter on "Selection of Various Forms of Anesthesia" should be read by every surgeon. The selection of an anesthetic is made on the basis of the general physiologic and pathologic conditions of the patient; age, cardiovascular affection; renal disease; shock; severe anemia; hepatic affections; septicemia; grave toxemia; and pregnancy. In children he stresses the requirements of slow progressive induction and high oxygen content of the mixture, nitrous oxide or ethylene being preferred in operations of short duration not requiring complete muscular relaxation, and ether by open mask method if complete relaxation is sought.

Intravenous anesthesia with sodium evipal or other barbiturates is contraindicated in patients suffering from hepatic disease, due to the fact that the liver is responsible for the greater part of the decomposition of the substance.

Lastly, he discusses, summarizes, and gives the order of preference of anesthetics on the basis of site and nature of operation.

While this book is invaluable to the anesthetist for its detailed technic, it is no less valuable to the surgeon, obstetrician, or any physician who assumes the responsibility of advising a patient concerning an anesthetic.

EDGAR BOLING, M.D.

COMMUNICATION

To the Editor:

In his introduction, to the recently published 1939 year book of Neurology, Psychiatry and Endocrinology, Dr. Nolan D. C. Lewis, Editor and Director of the New York State Psychiatric Institute writes:

"The pharmacologic shock type of therapy and the varieties of research initiated and determined by this approach dominate the whole realm of psychiatry; in fact, have been gaining steadily during the last three years. The reporting of the results of these therapeutic measures is outstanding and has overshadowed all else (approximately 450 publications on insulin and metrazol alone appeared in 1939) . . . Biochemical investigations have been increased and particularly vitalized by the insulin and metrazol methods. Biochemical activities not directly concerned with the action of the "shock" drugs are also throwing some light on the general problems; particular attempts have been made to elucidate brain metabolism, faulty detoxication and other vital phenomena. . . . Even the psychoanalysts as a group are becoming interested in the remissions initiated by the shock types of therapy."

Like many other progressive measures, the pharmacologic "shock" therapy came into conflict with the ruling oligarchy who minimized its virtues and exaggerated its faults, but continued improvement in the technic of its administration as well as the constantly increasing number of remissions following its use are bringing about an accurate evaluation of its merits as a therapeutic adjunct in the treatment of mental illness.

NEWDIGATE M. OWENSBY, M.D.

March 16, 1940.

WOMAN'S AUXILIARY

(Forwarded from page 243)

that one member of the Auxiliary recently passed away, Mrs. Tallulah Christian Chandler, wife of Dr. W. V. Chandler, of Baldwin. Mrs. Chandler was the first teacher at Baldwin, a charter member of the Christian church, a charter member of the Baldwin P.T. A., and active member of the Habersham Medical Auxiliary, the Eastern Star, and the Rebeccas of the Independent Order of Odd Fellows.

RANDOLPH COUNTY

Mrs. W. G. Elliott, of Cuthbert, entertained members of the Woman's Auxiliary to the Randolph County Medical Society recently at her home in Cuthbert. Mrs. Loren Gary, Jr., president, presided over the business session. Mrs. F. M. Martin and Mrs. J. C. Patterson were appointed to serve as a nominating committee to present names of new officers. The program featured discussion of health films and research in romance of medicine and perfection of plans for observance of Doctors' Day. During the social hour, a number of guests called for tea and Miss Marion Eihridge gave a reading, "Leap Year Leap."

NEWS ITEMS

THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL, New York City, sponsored a lecture by Dr. Russell L. Cecil, April 10, on *Pneumonia—The Clinical Status of Classification and Types; Modern Methods of Diagnosis; Rabbit Serum Versus Horse Serum; Discussion of Sulfapyridine and the Newer Sulfonamide Derivatives*. The School and Hospital announces that it has established a special clinic for the "Hard of Hearing." New patients are received on Tuesdays and Thursdays at 2:00 P. M. The Clinic is under the direction of Dr. Samuel J. Kopetsky.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on March 12. Dr. Lee Howard read a paper, *The Anemias—Illustrated with Colored Motion Pictures*. Dr. E. T. Upson reported a case, *Surgical Removal of Unusual Tumor of the Ileum*.

THE FULTON COUNTY MEDICAL SOCIETY, Atlanta, met on March 7. Dr. James E. Paullin and Dr. W. B. Matthews reported a case *Periarthritis Nodosa and Exhibited Pathologic Specimen*; Dr. J. K. Fancher reported a case *Exophthalmic Goiter Treated with Sex Hormones*; Dr. Henry Rudisill, Jr., made a clinical talk, *The Effects of X-Rays in Infection*; Dr. James N. Brawner and Dr. Albert F. Brawner read a paper, *Recent Advances in the Treatment of Mental Disorders*, discussed by Dr. W. W. Young.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, March 7. Dr. W. G. Elliott discussed *The Treatment of Eclampsia*.

THE BIBB COUNTY MEDICAL SOCIETY met at Ridley Hall, Macon, March 5. Dr. J. Allen Smith read a paper on *Some Phases of Practical Otology*.

DR. B. McH. CLINE was elected president of the medical staff of St. Joseph Infirmary, Atlanta; Dr. Major Fowler, president-elect; Dr. J. G. Riley, vice president; and Dr. Joseph C. Read, secretary.

DR. FRANK K. BOLAND, Atlanta, chairman of the Fulton County Chapter of the American Red Cross, spoke before a meeting of the Woman's Auxiliary to the Fulton County Medical Society, March 1, on *Red Cross Activities and Showed a Moving Picture*.

DR. L. MINOR BLACKFORD, Atlanta, has been elected chairman of the Medical Advisory Committee of the Family Welfare Society; and Dr. Joseph C. Massee, vice chairman. Other physicians who have served on the committee for four years include: Dr. W. W. Anderson, Dr. Taylor Burgess, Dr. Edgar Boling, Dr. M. K. Bailey, Dr. Amey Chappell, Dr. W. L. Funkhouser, Dr. Wm. H. Kiser, Jr., Dr. Jas. P. Hanner, Dr. Walter R. Holmes, Dr. George F. Klugh, Jr., Dr. Russell H. Oppenheimer, Dr. Wm. A. Smith, Dr. C. W. Strickler, Jr., Dr. John R. Walker, Dr. Richard B. Wilson, Dr. J. D. Martin, Jr., Dr. Joseph Yampolsky, Dr. Zach W. Jackson, Dr. Florence L. Swanson, and Dr. J. Moss Beeler, all of Atlanta.

THE BULLOCH-CANDLER-EVANS COUNTIES MEDICAL SOCIETY adopted a resolution at a recent meeting and urged the city council of Statesboro to establish an abattoir for the city of Statesboro, also to appoint a competent inspector to inspect all meats sold within the city limits of Statesboro.

DR. WM. R. CROWE, Atlanta, spoke before a meeting of the American Business Club in Atlanta, February 16 on *Sex and Social Diseases*.

THE FIRST DISTRICT MEDICAL SOCIETY met at the Community House, Millen, March 20. Titles of papers on the scientific program were: *Carbontetrachloride Poisoning*, by Dr. R. L. Kennedy and Mr. Stanley Stewart, technician at the Metter Clinic, Metter; *Cancer of Stomach—Illustrated with Moving Picture*, Dr. Julian K. Quantle.

baum, Savannah; *Platform of the American Medical Association*, Dr. Wm. H. Myers, Savannah, president of the Association; *Treatment in Psychiatry*, Hervey Cleckly, Augusta, professor of Psychiatry, University of Georgia School of Medicine; *Vitamin B Deficiency*, Dr. V. P. Sydenstricker, Augusta, professor of Medicine, University of Georgia School of Medicine; *Coronary Thrombosis*, Dr. L. Fielding Lanier, Sylvania; *Regional Anesthesia*, Dr. P. H. Smith, Savannah. Members of the Entertainment Committee were: Dr. J. J. Folk, Dr. H. G. Lee and Dr. I. S. Giddens, all of Millen. Program Committee: Dr. J. C. Metts, Dr. L. J. Hahne, Dr. H. H. McGee and Dr. S. F. Rosen, all of Savannah.

THE BALDWIN MEMORIAL HOSPITAL, Milledgeville, has its new building completed. It is used exclusively for surgery and obstetrics. The hospital now has an eighty-five-bed capacity, fireproof, air-conditioned, with telephone and private bath for each room. The hospital has been approved by the American College of Surgeons. Dr. Richard Binion is chief surgeon and owner.

THE STAFF MEETING of the Crawford W. Long Memorial Hospital, Atlanta, was held on March 14. Dr. Thomas P. Goodwyn and Dr. H. W. Jernigan reported a case of *Scoliosis*. Dr. Harold McDonald showed a moving picture of *Cystoscopy in Colors*.

DR. WILLIAM R. CAMP, Fairburn, celebrated his fiftieth anniversary in the practice of medicine on March 6. He was the recipient of many congratulations by his acquaintances and civic clubs. Dr. Camp recalled the days when he walked to visit patients, then rode horseback, later automobiles. He is active and making calls continuously. He was born and reared in old Campbell county. Dr. Camp served as county physician for Fayette county for many years, and has been county physician for old Campbell county almost continuously since he began practice until it was included in the expansion of Fulton county. The Campbell News in a long article among many other things states that, "His two outstanding personal characteristics are—first, his unselfishness with his family and his friends, and, second, his frankness with all people."

DR. ROBERT CARTER DAVIS, son of the late Dr. E. C. Davis and brother of Dr. Shelley C. Davis, has located in Atlanta for the practice of Internal Medicine. He will be associated with Drs. Allen H. Bunce and Mark S. Dougherty, Jr., whose offices are at 139 Forrest Avenue, N. E. Dr. Davis attended Boys' High School and later Emory University, where he received both his B.S. and M.D. degrees. At Emory he was a member of the Chi Phi Fraternity and Alpha Kappa Medical Fraternity. He was associated with the Pathology Department of the Crawford W. Long Memorial Hospital before going to Grady Hospital for his internship. Since then Dr. Davis has done special work at the Cook County Graduate Medical School in Chicago and has just completed an internship at the University of Chicago. In February, 1939, Dr. Davis married Miss Hilda Blount Brown, formerly of Atlanta, who will return with him and their young son, Robert Carter Davis, Jr., for residence in Atlanta.

THE FULTON COUNTY MEDICAL SOCIETY met at the Academy of Medicine, Atlanta, March 21. Dr. J. Harris Dew reported a case, *Obscure Abdominal Mass*; Dr. Fred F. Rudder and Dr. T. C. Davison, clinical discussion, *Intravenous Anesthesia—A Method of Administration, Report of 1,000 Cases*; Dr. Trimble Johnson read a paper, *Chronic Streptococcic Infections—Arthritis, Neuritis, Headaches, Cardioresenal, Iritis and Retinitis*. The discussion was led by Dr. Hal M. Davison and Dr. J. R. Childs. Abbott Laboratories showed a moving picture on *The Use of Penthothal*.

DR. PERCIVAL BAILEY, Chicago, professor of Neurology and Neurological Surgery, University of Illinois, delivered the E. Bates Block Memorial Lecture, sponsored by the Fulton County Medical Society at the Atlanta Biltmore Hotel, March 18, on *Indications for Operations on Cases of Brain Tumor*.

THE NINTH DISTRICT MEDICAL SOCIETY met in the Legion Hall, Winder, on March 20. Titles of papers on the scientific program were: *Some Medical Problems in Georgia*, by Dr. J. C. Patterson, Cuthbert, president-elect of the Medical Association of Georgia; *A Layman Looks at the Family Doctor*, Miss Helen Estes, Gainesville, past State president of the American Legion Auxiliary, Advisory National Child Welfare Committee, American Legion Auxiliary; *Rectal Diseases, A Study in Every-Day Practice—Illustrated with Lantern Slides*, Dr. Thomas Brockman, Greenville, S. C.; *Obstetrics, Observation and Care*, Dr. W. R. Garner, Gainesville. Luncheon was served at the Winder Hotel.

THE BIBB COUNTY MEDICAL SOCIETY met at Ridgely Hall, Macon, March 19. Dr. H. C. Atkinson spoke on *Medical Aspects of Sinus Disease*.

THE BEN HILL AND IRWIN COUNTIES MEDICAL SOCIETY met on March 6. Officers were elected for the ensuing year.

THE STAFF MEETING of Grady Hospital, Atlanta, was held on March 12. Dr. E. P. Niceley reported two cases, *Treatment of Urinary Incontinence Following Prostatic Resection*, and *Renal Carbuncles*; Dr. Henry Holliman reported a case of *Hydronephrosis Aberrant Vessels*. The discussion was led by Dr. Earl Floyd and Dr. J. L. Pittman.

THE COLQUITT COUNTY MEDICAL SOCIETY met at Moultrie on March 13. Dr. Charles H. Watt, Thomasville, was the principal speaker on the scientific program.

DR. C. DAN BOWDOIN, Atlanta, State Department of Public Health, spoke before a meeting of the Woman's Auxiliary to the Bibb County Medical Society, Macon, on March 12.

DR. ROBERT E. ADAIR, Cartersville, is the subject of several complimentary articles published in the Tribune-News of Cartersville and Cartersville Herald. Among many other things, the Tribune-News states, "Tuesday, March 5, marked the fiftieth year of medical practice in Bartow county for one of its best known and loved citizens, Dr. R. E. Adair. He observed the day quietly, going about his chores as a gentleman farmer, and attending a few patients, close friends of his long prac-

tice." The Cartersville Herald is equally as high in its praise and eulogy of Dr. Adair. He graduated in medicine from the Southern Medical College, Atlanta, March 5, 1890. It is stated that he began practice at Taylorsville immediately after he graduated. The papers give the name of his first patient, who had pneumonia, then his first surgery is described along with the hardships of practice at that time.

THE BIBB COUNTY MEDICAL SOCIETY met at Ridley Hall, Macon, April 2. Dr. C. N. Wasden read a paper entitled, *Subtotal Gastrectomy for Intractable Gastric Ulcer—Illustrated with Motion Picture*.

THE WARE COUNTY MEDICAL SOCIETY met in the Community Hall, Ocilla, April 3. Dr. Raymond Harris, former resident physician at the Ware County Hospital, was host to the Ware, Ben Hill, Coffee and Irwin Counties Medical Societies at dinner.

THE FULTON COUNTY MEDICAL SOCIETY met at the Academy of Medicine, Atlanta, April 4. Dr. James H. Byram and Dr. A. J. Ayers reported a case, *Giant Cell Follicular Hyperplasia of the Lymph Nodes—Illustrated with Lantern Slides to Demonstrate Pathology*; Dr. Herbert S. Alden made a clinical talk, *What the Dermatologist Does—Illustrated with Colored Lantern Slides*; Dr. A. Worth Hobby read a paper entitled, *Air Embolism Following Pneumothorax* (a study from personal communication with all physicians in the U. S. A. who give pneumothoraces); discussed by Dr. Hugh Cochran and Dr. Bernard Wolff.

THE SEVENTH DISTRICT MEDICAL SOCIETY met at the Cherokee Golf Club, Cedartown, April 3. Titles of papers on the scientific program were: *Diagnosis and Treatment of Toxic Goiter*, by Dr. T. C. Davison, Atlanta; discussed by Dr. Robert Harbin, Rome, and Dr. Wilbur Hall, Calhoun; *Management and Treatment of Lung Abscesses*, Dr. Ben H. Clifton, Atlanta; discussed by Dr. J. T. McCall, Rome, and Dr. P. O. Chaudron, Cedartown; *The Present Status of Chemotherapy in Pneumococcal Infections with Special Emphasis on the Use of Sulfapyridine and Sulfathiazol*, Dr. Joseph Yampolsky, Atlanta; discussed by Dr. Ralph Fowler, Marietta, and Dr. Robert Norton, Rome; *Etiologic Factors of Human Sterility in the Male—Illustrated with Lantern Slides*, Dr. Charles Rieser, Atlanta; discussed by Dr. John McGehee, Cedartown, and Dr. Ralph Johnson, Rome.

THE GEORGIA MEDICAL SOCIETY, Savannah, met March 26. Dr. W. D. Wilson read a paper on *Postoperative Myxedema*, discussed by Doctors M. J. Egan and J. C. Metts. Dr. F. Bert Brown reported a case, *Osteomyelitis Complicated by Carcinoma*.

THE FIFTH DISTRICT MEDICAL SOCIETY met at the Academy of Medicine, Atlanta, March 29. Dr. William H. Myers, Savannah, president of the Medical Association of Georgia, was a speaker on the program; Dr. Lloyd F. Craver, New York City, member of the staff of Memorial Hospital, spoke on *Lymphomas*; Dr. Adrian Lambert, Jr., New York City, member of the faculty of Columbia University, spoke on *Surgery in Diseases of the Chest*.

Dr. HOWARD HAILEY, Atlanta, spoke before a meeting of the Inter-City Civitan Club of College Park, East Point and Hapeville, March 26.

Dr. ROBERT C. PENDERGRASS, Americus, spoke on the *History of the National Cemetery at Andersonville*, March 19, before a meeting of the Albany Lions Club.

Dr. J. H. KITE, Atlanta, chief surgeon of the Scottish Rite Hospital, Decatur, spoke before a meeting of the Macon Kiwanis Club, March 20.

THE SOUTHEASTERN SURGICAL CONGRESS will meet next year in Richmond, Va. At the annual convention held in Birmingham, Ala., March 11-13, Dr. B. T. Beasley, Atlanta, was re-elected Secretary-Treasurer; Dr. L. Minor Blackford, Atlanta, re-elected editor.

Dr. CHAS. H. WATT, Thomasville, was the principal speaker at a meeting of the Colquitt County Medical Society at the Vereen Memorial Hospital, March 13.

Dr. S. C. RUTLAND, LaGrange, was a guest speaker at the United Congregational Christian church, LaGrange, March 10.

Dr. R. W. FOWLER, Marietta, has been elected a member of the Marietta Board of Education.

Dr. JOSEPH YAMPOLSKY has been invited to address the Mississippi State Pediatric Society at their annual meeting to be held in Jackson, May 13. The topic will be *The Treatment of Syphilis in Infancy and Childhood*.

COUNTIES REPORTING FOR 1940

Blue Ridge Medical Society

The Blue Ridge Medical Society announces the following officers for 1940:

President—J. M. Daves, Blue Ridge.
Vice President—J. F. O'Daniel, Ellijay.
Secretary-Treasurer—C. B. Crawford, Blue Ridge.
Delegate—E. W. Watkins, Ellijay.

Stephens County Medical Society

The Stephens County Medical Society announces the following officers for 1940:

President—W. B. Heller, Toccoa.
Vice President—J. E. D. Isbell, Toccoa.
Secretary-Treasurer—C. L. Ayers, Toccoa.
Delegate—W. B. Schaefer, Toccoa.
Alternate Delegate—J. E. D. Isbell, Toccoa.

Rockdale County Medical Society

The Rockdale County Medical Society announces the following officers for 1940:

President—P. J. Brown, Conyers.
Secretary-Treasurer—H. E. Griggs, Conyers.
Delegate—H. E. Griggs, Conyers.

Forsyth County Medical Society

The Forsyth County Medical Society announces the following officers for 1940:

President—Marcus Mashburn, Cumming.
Vice President—J. T. Brice, Cumming.
Secretary-Treasurer—W. E. Lipscomb, Cumming.
Delegate—W. E. Lipscomb, Cumming.

Morgan County Medical Society

The Morgan County Medical Society announces the following officers for 1940:

President—D. M. Carter, Madison.
 Vice President—J. H. Nicholson, Madison.
 Secretary-Treasurer—W. C. McGeary, Madison.
 Delegate—J. H. Nicholson, Madison.
 Alternate Delegate—J. L. Porter, Rutledge.

Ware County Medical Society

The Ware County Medical Society announces the following officers for 1940:

President—Leo Smith, Waycross.
 Vice President—K. C. Walden, Waycross.
 Secretary-Treasurer—Kenneth McCullough, Waycross.
 Delegate—W. F. Reavis, Waycross.

Chattooga County Medical Society

The Chattooga County Medical Society announces the following officers for 1940:

President—R. E. Talley, Trion.
 Vice President—Mary Margaret McLeod, Trion.
 Secretary-Treasurer—Lee H. Battle, Jr., Trion.
 Delegate—W. U. Hyden, Trion.

Ben Hill County Medical Society

The Ben Hill County Medical Society announces the following officers for 1940:

President—Herman Dismuke, Ocilla.
 Secretary-Treasurer—J. E. Smith, Ocilla.
 Delegate—W. D. Wilcox, Fitzgerald.

Colquitt County Medical Society

The Colquitt County Medical Society announces the following officers for 1940:

President—James R. Paulk, Moultrie.
 Vice President—Cecil Brannen, Moultrie.
 Secretary-Treasurer—R. E. Stegall, Moultrie.
 Delegate—R. M. Joiner, Moultrie.
 Alternate Delegate—C. C. Brannen, Moultrie.

DeKalb County Medical Society

The DeKalb County Medical Society announces the following officers for 1940:

President—C. E. Cunningham, Decatur.
 Vice President—C. L. Allgood, Scottdale.
 Secretary-Treasurer—Lawrence P. Matthews, Decatur.
 Delegate—H. Homer Allen, Decatur.

Grady County Medical Society

The Grady County Medical Society announces the following officers for 1940:

President—A. B. Reynolds, Cairo.
 Secretary-Treasurer—J. V. Rogers, Cairo.
 Delegate—J. V. Rogers, Cairo.
 Alternate Delegate—A. W. Rehberg, Cairo.

Lamar County Medical Society

The Lamar County Medical Society announces the following officers for 1940:

President—J. H. Jackson, Barnesville.
 Vice President—D. W. Pritchett, Barnesville.
 Secretary-Treasurer—S. B. Traylor, Barnesville.
 Delegate—J. A. Corry, Barnesville.

Laurens County Medical Society

The Laurens County Medical Society announces the following officers for 1940:

President—J. E. New, Dexter.
 Vice President—D. D. Woodward, Dudley.
 Secretary-Treasurer—O. H. Cheek, Dublin.
 Delegate—E. B. Claxton, Dublin.

Monroe County Medical Society

The Monroe County Medical Society announces the following officers for 1940:

President—W. J. Smith, Juliette.
 Vice President—B. L. Smith, Forsyth.
 Secretary-Treasurer—G. H. Alexander, Forsyth.
 Delegate—G. H. Alexander, Forsyth.

Polk County Medical Society

The Polk County Medical Society announces the following officers for 1940:

President—Geo. M. White, Rockmart.
 Vice President—Chas. V. Wood, Cedartown.
 Secretary-Treasurer—John M. McGehee, Cedartown.
 Delegate—P. O. Chaudron, Cedartown.
 Alternate Delegate—Seals L. Whitley, Cedartown.

OBITUARY

Dr. Frank A. Martin, Bowdon; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1886; aged 75; died on February 27, 1940, at the home of his daughter, Mrs. F. M. Setzer, Atlanta. He began practice in Indiana, later returned to Carroll County where he practiced for thirty years. Dr. Martin took especial pride in his obstetric and pediatric practice. He was a member of the F. & A. M. and Methodist church. Surviving him are his widow, five daughters, Mrs. F. M. Setzer and Mrs. E. F. Roberts, Atlanta; Mrs. M. L. Johnson, Bowdon; Mrs. Ernest Spradlin, Newnan; Mrs. Lois Barnes, Tallapoosa; five sons, Frank H. Martin, Louisville, Ky.; Talmadge M. Martin, Elberton; Roy Martin, Donaldsonville; Donald L. Martin, Bowdon; and Thomas L. Martin, Carrollton. Rev. J. J. Copelan and Rev. E. Dittmore officiated at the funeral services, conducted in the Bowdon Methodist church. Burial was in Bowdon cemetery.

Dr. Hugh Nelson Page, Augusta; member; University of Virginia Department of Medicine, Charlottesville, Va., 1905; aged 58; died on March 6, 1940, of cerebral thrombosis. He was a native of Norfolk, Virginia, and received his literary education at Woodberry Park. Dr. Page took post-graduate work in a number of institutions in New York City before he began practice, and later served as professor of anatomy at the University of Mississippi, 1909-1911. He then served as professor of anatomy at the University of Georgia School of Medicine, Augusta, for ten years. Dr. Page relinquished his place on the faculty of the University to engage in private practice. At the time of his death, he was on the surgical staff of the University Hospital and associate professor of orthopedic surgery. He was one of the organizers of the Savannah Clinic. Before that time he had an illustrious career as a teacher. Surviving him are his widow, one daughter, Mrs. Philip Kay Stead of Leeds,

England; two sons, Albert Anderson Page and Nelson Page, Augusta. Rev. John E. Hines and Rev. Robert Excell Fry conducted the funeral services at the residence. Burial was in Westover Memorial Park.

Dr. Clyde Durham Elder, Marietta; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1905; aged 64; died on March 9, 1940. He was a native of Oconee county. After he graduated in medicine, he took post-graduate work in New York City. He was an active member on the staff of the Marietta Hospital, and practiced in Cobb and adjoining counties for 35 years. He was identified with many progressive movements. He married Miss Hazel June Murphy of Urbana, Ohio, June 1, 1914. He was a member of the Cobb County Medical Society and the First Presbyterian church. Surviving him are his widow, one sister, Mrs. Ruby Zuber, Bogart; one brother, Dr. L. H. Elder, Bogart. Funeral services were conducted at the chapel of Mayes Ward by Rev. M. O. Summers and Rev. J. H. Patton. Burial was in the city cemetery of Urbana, Ohio.

Dr. Frank Pattillo Norman, Columbus; member; Atlanta School of Medicine, Atlanta, 1910; aged 54; died in the Columbus City Hospital on March 17, 1940, of heart disease. He was a native of West Point. After he graduated in medicine he practiced in Greenville until 15 years ago, then moved to Columbus where he was active in the practice of pediatrics. Dr. Norman was a member of the Muscogee County Medical Society, American Medical Association, Masons, Shrine and Methodist church. Surviving him are his widow, two daughters, Misses Lila and Ann Norman; two sons, Lieut. F. P. Norman, Jr., and John Pinkston Norman. Rev. K. H. MacGreggor officiated at the funeral services conducted at the D. A. Striffler mortuary. Burial was in Riverdale cemetery.

Dr. William L. Bennett; Moultrie; member; Southern Medical College, Atlanta, 1896; aged 63; died on March 20, 1940, of injuries received in an automobile accident. He was a native of Cumming, Forsyth county. After he practiced in Forsyth county about twenty years, he moved to Moultrie and by being skillful and a successful practitioner, he built for himself an extensive practice. He was a member of the Colquitt County Medical Society and the First Baptist church. Surviving him are his widow, two daughters, Miss Margaret Bennett, Greenville, S. C., public schools, and Mrs. Paul Watts, Moultrie. Rev. R. C. Gresham, Rev. J. P. Dell, Rev. M. A. Macdonald and Dr. M. L. Lawson officiated at the funeral services, conducted at the home.

Dr. William H. Weeks, Kennesaw; Chattanooga Medical College, Chattanooga, Tenn., 1906; aged 69; died March 15, 1940, at his home after a long illness. He was a native of Fannin county and practiced there for a number of years. He was a Mason and a member of the Methodist church. Surviving him are his widow, one son, Dr. H. L. Weeks, Knoxville, Tenn.; Misses Dean, Bill, and Ruth Weeks, Kennesaw; and Mrs. Grace Morris, Brookhaven. Rev. Cochran, pastor of the First Methodist church of Cartersville, and the pastor of the Kennesaw Methodist church officiated at the funeral services.

Dr. Walter E. Bedingfield, Rentz; member; Johns Hopkins University School of Medicine, Baltimore, Md., 1904; aged 60; died on March 17, 1940, in a Dublin hospital. He was interested in farming and was a successful physician. He was a member of the Laurens County Medical Society and the Rentz Baptist church. Dr. C. D. Graves, Dublin, and Rev. C. C. Long, Dexter, officiated at the funeral services. Interment was in the Rentz cemetery.

Dr. Randolph D. Jones, Reidsville; member; University of Georgia School of Medicine, Augusta, 1899; aged 63; died March 29, 1940, at his home of heart disease. He was a native of Bulloch county and moved to Tattnall county about forty years ago. In addition to his active practice, he was engaged in farming. Surviving him are his widow; six daughters, Mrs. A. F. Southwell, Mrs. W. E. Strickland, Mrs. Olliff Everett, Mrs. A. B. Spence, Jr.; two sons, W. D. and Roy Jones.

Dr. M. V. Wood, Menlo; member; University of Georgia School of Medicine, Augusta, 1891; aged 74; died March 10, 1940, at the home of his daughter, Mrs. W. P. Davis, Florence, S. C. He was a native of Cherokee county. The greater portion of his life was spent at Menlo where he enjoyed an extensive practice. He retired about seven years ago on account of ill health.

Dr. James Robinson Fuller, Atlanta; member; Emory University School of Medicine, Emory University, 1915; aged 57; died March 30, 1940. He was a native of Dublin. After he graduated in medicine, he interned at the Willard Parker Hospital, New York City, then returned to Atlanta and enlisted in the medical corps of the United States Army. Dr. Fuller began practice in Atlanta at the close of the World War. He was a member of the Fulton County Medical Society and American Medical Association and Shrine. Surviving him are his widow, one daughter, Miss Jane Fuller; one son, James R. Fuller, Jr. Dr. Ellis Fuller and Dr. Louie D. Newton officiated at the funeral services conducted at Spring Hill chapel. Burial was in West View cemetery.



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MEDICINE: YESTERDAY AND TOMORROW*

WILLIAM H. MYERS, M.D.
Savannah

It is the time-honored custom for the President to make an address in which he gives an account of his stewardship, outlines policies for the future of the organization, or perhaps chooses some subject which he deems appropriate to the occasion. But first let me express my appreciation of the privilege of serving as your President, for it is a rare distinction and a great honor to be chosen head of this Association, composed as it is of so large a number of loyal members of our profession. I am profoundly indebted to the members for their unfailing loyalty and helpfulness.

This year has offered many opportunities and entailed much work, but it leaves me with cherished and lasting memories of the fullest year of my life. It is with mingled emotions that I appear before you to bring a message, not a valedictory but a pledge of continued interest and a deep affection for this organization, for it is my desire to remain an active member and help meet the many problems as they arise.

I invite your attention while we consider some of medicine's glorious past and some of its future problems. I have no Utopian plans for the future, no solution of our problems, nor do I make a prophecy as to what the future may bring. We all recognize that there are great possibilities and doubts, and that change is universal. Nothing in the world seems static, and revolutionary changes in medical practice may

soon come. But in reviewing our past accomplishments we find that the medical profession has yet to fail to meet its problems with sincerity and a full appreciation of its responsibilities.

The art of medicine has been in existence in one form or another for nearly twenty-four centuries. During all of the ages, in all lands and under every stage of civilization, men have looked to some kind of a physician as a guide and help in time of sickness. Physicians, as we know them, have been in existence for only a few generations, but a few practitioners even in remote times made some important contributions to the healing art and are still honored. But there was less advancement made from the time of Hippocrates to the eighteenth century than we now see in the space of a few years.

In ancient and medieval times the profession was in the hands of the priests and mystics, whose religious observances and superstitions retarded progress. Experimentation and investigation were tabooed lest an outraged god visit upon the people some dire punishment, or that religious zealots would put the experimenters to the flame or rack for the sin of heresy.

The beginning of enlightenment in medicine was not until the fifteenth century, when the German, Gutenberg, invented the printing press, and thus made available the accumulated knowledge of the times through the Latin texts. Those who could study these texts initiated the forward movement. Notwithstanding this innovation medicine made only an occasional forward step, as when Pare accidentally found that wounds healed better if they were not treated with boiling oil; Harvey discovered the circulation of the blood; John Hunter made "gentlemen out of surgeons"; Jenner performed his first vaccination, and the janitor of the

*President's address before the ninety-first annual session of the Medical Association of Georgia, Savannah, April 25, 1940.

Dutch City Hall invented the microscope and first saw protozoa and bacteria.

In the nineteenth century the foundation for the marvels of modern surgery was established when Crawford W. Long discovered the method of producing surgical anesthesia, Louis Pasteur appeared upon the scene to contribute more to the art of healing than had all of his predecessors of all time, and Lord Lister introduced surgical asepsis and antiseptics. The work of these three men made it possible for surgery to be ranked as "The Queen of the Arts."

The most brilliant results thus far are in the field of preventive medicine. Walter Reed and his co-workers made it possible to banish yellow fever from the earth. Except for their discovery, the Panama Canal would probably not have been constructed, and the West Indies would still be inhabited by diseased, poverty-stricken and hopeless creatures, instead of the happy, prosperous people of today. Ashford changed life in Puerto Rico when he discovered that tropical anemia was caused by the hookworm and that it could be prevented as well as cured.

Experience has taught us that typhoid fever is no longer a major problem, either in military or civil life, for knowledge of sanitation and prophylaxis make the disease so rare that some practicing physicians have never treated a case of it. Malaria has been one of man's most wasteful diseases, and had much to do with destroying the civilizations of ancient Rome and Egypt. But Sir Ronald Ross' discovery of its cause and the means of transmission, and Laveran's discovery of the entire life cycle of the plasmodium have saved millions of lives. To control malaria, we need only screen our homes and destroy mosquitoes.

Asiatic cholera and bubonic plague are found in only a few areas of the world, but as long as qualified health officers are able to exercise their preventive measures, no one should fear their spread and disastrous results.

There are references in the Bible to a disease believed to have been syphilis which took great toll of humans and disabled

thousands all through the ages. As a health problem, syphilis is now being attacked in the open for the first time in the United States. Since Schaudinn isolated the Treponema, Wassermann described the serum reaction, and Ehrlich prepared the arsenical treatment, we have been making progress in the campaign against it. Our national, state and municipal health authorities are waging an intensive antisiphilitic program with a considerable degree of success. We know that if venereal diseases are controlled, we shall not need so many beds in our hospitals, nor have such a large part of our population in mental institutions. There is much hope for the future patient suffering from syphilis, for we have new therapeutic agencies of much promise. Even the tabetic and parietic are no longer hopeless, if they get the benefit of modern methods of treatment.

Surgery had little to offer even after John Hunter made gentlemen of its votaries. Infection was expected to follow any operation or wound, and pus was said to be laudable, for there was some chance of recovery if it developed, whereas if the infection were streptococcic, no pus would be produced and death might be the result. We now see every organ in the body subjected to surgical treatment, and the art has been raised by a great army of painstaking and skillful surgeons. The brain lends itself readily to removal of tumors and other surgical treatment. The chest is among the last of the regions of the body to claim the attention of the surgeon, who shows his courage as well as his skill when he resects a lung for bronchiectasis, tumor, or some other condition. Likewise progress is being made in operations upon the heart, with enough encouragement to make it attractive as a special field of surgery.

Injuries and deformities have become very commonplace since the highspeed automobile is in such general use. Much can be done to restore function and esthetic effect by the surgeon who treats these injuries. Automobile accidents affect almost a million people each year, and have produced so many broken bones that knowledge of

fractures and orthopedic surgery has been immeasurably advanced.

The clinical laboratory, which a few years ago was so insignificant, has become an essential part of medical practice. It is here that the physician not only makes his diagnosis with exactitude but, guided by laboratory findings, is able to determine what is apt to be the safe and beneficial treatment in the given case.

Our armamentarium has been improved so that it includes instruments and appliances for diagnosing and treating every known ailment. The condition of the heart and vascular system can be determined with a considerable degree of accuracy by the use of the newer machines. The information rendered by these instruments constitute our greatest hope for lessening the fatality from heart disease, which is now the most frequent cause of death.

We have seen x-ray apparatus grow from a weak, uncertain device to a powerful instrument of great precision, and a marvelous aid in diagnosis and treatment. Its value is so great that the courts have taken cognizance of its importance in treatment of fractures with the result that malpractice suits are extremely rare in cases where the x-ray has been adequately used. Standardization of its use in treatment of tumors and other conditions has almost eliminated the severe x-ray burns which formerly occurred far too often. We have in it an indispensable aid in the complexities of medical practice.

In the rapid advances made in combating disease, the art of therapeutic measures has to a certain extent been neglected in the past. We overlooked treatment after we had made a satisfactory diagnosis. Thanks to a change in attitude, we are no longer therapeutic nihilists but are reaching out for more satisfactory medicaments with which to treat our patients and thus retrieve some of the lost ground of former years.

The former hopeless attitude towards virulent streptococcal infection is well known to all. But with the coming of sulfanilamide and its derivatives we have made much progress in combating not alone the streptococcus, but many other common in-

fections, including the pneumococcus. We now have for the first time in sulfapyridine an effective drug, within the reach of all, for treatment of certain types of pneumonia.

A new field of internal medicine has recently been developed: that of dietary deficiency disease, which gives promise of being one of the most important and helpful of all branches of medicine. Cases of pellagra and beriberi are very numerous and cause a vast amount of invalidism. Many early cases of these diseases lack the characteristics of late and severe cases and are therefore not readily recognized. We now know that these conditions are caused by avitaminosis and that cure is prompt when vitamins of known value are administered and a balanced diet is provided. A newer phase of this subject is the discovery that a form of keratitis causing varying degrees of blindness is due to a vitamin deficiency. Yeast yields riboflavin which produces rapid response when administered in such cases. Many of you are familiar with this subject, but a review of recent developments would be incomplete without reference to this discovery which is the contribution of one of our own members.

We are accustomed to the excellent results in the treatment of pernicious anemia by the use of liver, and in diabetes by the use of insulin. The importance of these preparations should not be forgotten, for they are agencies of extraordinary value.

Care of the insane has always been a great and discouraging problem, but now the psychiatrist has made a great step forward. By use of convulsants such as metrazol and others, he is able to return about one in four of these patients to self-supporting useful members of society.

Thanks to a beneficent profession, tuberculosis is no longer the loathsome and hopeless disease that it was a few decades ago. There is little to be done except to put into use all of our knowledge in order to reduce it to one of the minor causes of death.

Cancer, second only to cardiovascular-renal diseases in producing death, has thus far resisted all efforts directed toward reducing its incidence, which unquestionably

is on the increase, though we are making progress in the treatment. Education must precede any great improvement in this situation, and to that end an educational campaign is carried on each year in order to teach the public some facts about cancer.

We have worked not only for better professional services to the patient, but have done a great deal to solve the economic problem brought about by illnesses, for illness produces a severe strain on the resources of any but the affluent. The offer by the profession of hundreds of plans for group hospitalization, on an actuarial basis, the establishment of clinics where medical services are free, and prepayment plans for medical treatment are doing a great deal to solve the vexatious problems of medical care.

No country in the world today has so many provisions for giving medical care to the low income group and indigent class as we have. No great country has as low a rate of sickness as the United States. Neither does any country have as great a bed capacity per capita in hospitals, nor such professional standards for the members of its hospital staffs.

American medical colleges are constantly supervised and given ratings so that they rank above those of all other countries in their ability to graduate physicians qualified to meet the highest requirements of any land. They are preparing men for every specialty in the entire field of medicine.

The organized medical profession of this country is composed of those who are members of the American Medical Association through its component societies. Numbering nearly 115,000, this is the greatest medical association in the world. Its periodicals surpass those of any other in the number of subscribers as well as the scope and quality of material. Vast sums of its funds are expended for the education and the benefit of the public.

Although the organized profession is great, it belongs to no group, caste, or clique. It embodies every democratic principle and has as its rule of conduct its code of ethics. Many of the principles set forth in this code

were originally enunciated by Hippocrates more than twenty-four hundred years ago, and are far less applicable to the physician than they are for safeguarding the rights and the interests of the patient. Considering all that medicine has done within the life-span of many still living to promote happiness, relieve pain, and prolong life, it is one of the marvels of science.

This is the medicine of yesterday, but what of the medicine of tomorrow? The record of American medicine is equalled by few and surpassed by none. Plans are constantly being made for extension of care, so that as far as possible every person will receive adequate medical care. However, the millennium has not descended upon any part of the human race. There are those who do not receive the proper kind or the right amount of food necessary for conservation of health, but no one feels that the farmer or the groceryman is an enemy of society because he does not distribute gratis his food products to those who are in need of them but unable to pay. Physicians alone are subjected to bitter attacks by inspired propagandists, who seem to think they must ruin what they cannot rule.

We stand ready to do any and all things necessary for the improvement of medical service. We are going to continue to aid by establishing clinics for taking care of the unfortunate sick. We are going to continue teaching people how to keep well. We shall support our State Board of Health in its efforts, for we feel a keen responsibility in all problems of public health. We think that our past record entitles us to the confidence of the people and believe that we would now enjoy the full confidence of the public if we were allowed to pursue the course that seems best to us without molestation from those who would exploit the highest qualities of physicians.

We are very proud but not boastful of the accomplishments of modern medicine. We know, however, that there is yet much to be done before we are satisfied with our attainments. We shall continue in our efforts to solve those problems of disease and

health which thus far have baffled investigation.

It would seem that we merit the approval of all fairminded and informed persons, and that we should be accorded freedom of action at least equal to that of the laborer. But we are tossed and disturbed by a storm of disapproval whipped up by misinformed and misguided persons. In this revolutionary and iconoclastic age we see our leaders hailed before the bar of justice because we desire to preserve for ourselves and those whom we serve, as well as those who will succeed us, the priceless freedom vouchsafed by the founders of our government. If we remain true to our profession, diligently and faithfully serve the public, I believe we need have no fear of the future.

POSTOPERATIVE CARE*

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All doctors, being more or less normal human beings, derive their greatest joy from seeing seriously ill patients recover. It goes without saying, therefore, that they are more genuinely interested in that type of patient. And so with the surgeons—to get by with a very difficult surgical procedure and have the patient regain normal health is compensation enough for many hours of earnest thought and assiduous labor.

Fortunately, the livelihood of the surgeon does not depend on seriously ill patients, and by that is meant one who lingers at death's door for days. The average patient enters the hospital in fairly good condition, is operated upon, goes through a more or less routine postoperative procedure and is dismissed from 7 to 10 days after admission. This type of patient is not as interesting, nor does he receive the detailed attention that the former patient does. It is to the care of these patients this paper is devoted.

Every doctor who does surgery realizes that good treatment postoperatively not only saves lives but kindles in the patient a kind-

ly feeling for the operator, the hospital and the medical profession not easily quenched. So many times we have a tendency to relax once the stress and strain of the operation is over, and the patient is safely back in the room and the family talked to, forgetting for the moment that the patient was anesthetized and felt no pain during our major undertaking and that as soon as he is conscious of a painful abdomen, it is then he earnestly solicits our diligent ministrations.

The operation completed, the first step in the after-care is a snug well fitted dressing, which should be done by the surgeon himself or under his direct supervision. There is no reason to pile layer after layer of gauze over a clean wound and strap the abdomen as tightly as one would a sacroiliac sprain. To do so makes the patient just as uncomfortable as applying the dressing too loosely.

After the patient has been gently deposited on the bed in a warm, well-ventilated room, and care taken that he is not overheated and sweated by too many blankets, one gives his thoughts to future treatment, depending on the kind of operation performed, the difficulty experienced and the present condition of the patient.

Blood transfusion is indicated certainly if a large amount of blood has been lost, immediately if the patient is in shock, or one has reason to believe he might go into shock¹—it is good medicine.² If the patient is anemic or toxic, or one of those undernourished, unhappy, apathetic sort of individuals, arrange for some donors and be ready to give one or more small transfusions, about 300 cc. if their convalescence deviates in the slightest from a satisfactory course.

Where the operation is an elective one and proper instructions as to carbohydrate, protein, vitamin and fluid intake are given and carried out prior to the surgical procedure, and the operation is relatively simple in that a minimum amount of trauma is done to the tissue, there is no need for immediate infusion of fluids either subcutaneously or intravenously if the patient is in good condition.

In emergency work, in all operations done

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without several days' preoperative preparation, in those long drawn-out affairs where there is trauma and sweating, 1,000 cc. of 5 per cent dextrose in normal saline should be given intravenously either on the operating table or as soon as the patient gets to his room. Thereafter he should receive 3 liters of fluid daily. To make up the deficit by mouth intake 1,000 cc. of 5 per cent dextrose in distilled water intravenously every 8 to 12 hours can be used to advantage.

Care should be exercised in not giving too much saline for fear of causing a retention of fluids in the tissue with subsequent edema; 1,000 cc. of normal saline daily gives ample chlorides, unless one is dealing with an intestinal obstruction, excessive vomiting, copious sweats, a fistula or any condition where there is continuous loss of chlorides. Here salt solution should be given in such amounts as is necessary to keep up the blood chloride level.⁴

Fantus⁵ has called attention to the fact that in a group of normally convalescing patients who received from 150 to 199 Gm. of dextrose in 24 hours, that one-third had glycosuria, and that while it may do no particular harm it does require extra water from the body to secrete it. It would seem, therefore, that 3,000 to 4,000 cc. of 5 per cent dextrose would adequately prevent ketoses, keep up the minimum caloric requirement and protect the liver.

In hyperthyroid cases, patients with fever, vomiting or loss of fluid, or where for any reason body metabolism has been stepped up and fluid ranging from 5,000 to 7,000 cc. is required daily, the intravenous drip recommended by Matas⁶ in 1924 is of inestimable value. In these cases it is well to use the small veins in the beginning, since as time goes on, particularly in a ward case, nurses and interns grow weary of regulating the rate of flow, keeping the solution warm, reinserting the needle, etc. It is comforting to have a good vein on the fourth or fifth day when the need may be greatest.

Pantopon, $\frac{1}{4}$ to $\frac{1}{2}$ grain, is given patients as generously as necessary for comfort, particularly during the first 24 hours. The patient who has taken an opiate and had a fairly comfortable night looks better and

indeed is better than the one who tries to "tough it out." Gradually the dose is cut down until sometimes on the second and nearly always on the third day it can be dispensed with. In sick patients, however, it is of infinite value as long as they are sick. Honest pain cannot be tolerated over a long period of time.

When vomiting or reverse peristalsis is anticipated, the Jutte or Levine tube inserted through the nose into the stomach and allowed to remain there does much to allay discomfort. It permits gas to escape and enables one to empty the stomach as rapidly as regurgitation from the upper bowel takes place. The tube can be inserted without difficulty and without discomfort as soon as the patient reacts. While he is asleep it will slip into the trachea nine times out of ten unless done under direct inspection. Lubricating jelly on the tube makes insertion easier and eliminates some of the gagging and coughing that are present when oil or glycerine is used. Nupercaine ointment can be used to advantage where the naris is tender.

In thin, long-chested individuals, a small amount of intestinal distention may push the stomach up under the ribs, where it may become markedly distended with fluid or gas and not be discovered by inspection or palpation. Two quarts of greenish fluid was recovered from the stomach of such a man on the third postoperative day. He was not distended and no fluids had been given by mouth. Clinically he had pneumonia and was sick until the pressure under his diaphragm was relieved. Patients may object to the passage of the tube at its initial presentation, but the relief afforded makes them grateful for your insistence and increases their respect for your knowledge.

Wagensteen's⁷ apparatus for continuous duodenal suction is most gratifying where there is reverse peristalsis over a period of days. One must keep in mind, however, that mucus easily plugs it and that it should be watched day and night for such an occurrence. Keeping the tube unstopped, the fluids warm and dropping properly, and the patient comfortable, is many times a weary-

ing job but is soon forgotten as improvement takes place.

The rectal tube is useful from the first to the last postoperative day. It is seldom used enough unless the patient once experiencing relief from its use wants it again. It is much easier for one to ease the pain with an injection of an opiate and think he is done with the job than to toy with a rectal tube some twenty or thirty minutes and remove the cause for such pain.

In all cases of extensive trauma prophylactic prostigmin, or some form of pituitrin should be commenced immediately and kept up every 8 to 10 hours until danger of intestinal distention has passed. It is unwise when one fears an ileus to practice watchful waiting and to attempt treatment when and if it happens. Some form of pituitrin also increases the bladder tone and encourages voiding.

Should troublesome distention occur which is not controlled by continuous suction from above, by judicious use of some form of pituitrin and enemas, care must be taken not to exhaust the patient, and this can be done easily by an overzealous orderly who is particularly proud of his skill as a "gas remover" with his favorite high enema and rectal tube. When no peristaltic sounds are present, repeated enemas definitely lessen the chances of recovery. This condition is best treated by maintaining the fluid level, giving enough saline or hypertonic salt solution to maintain the normal chlorides, blood transfusions, frequent inhalations of oxygen with a nasal catheter, or if there is cyanosis, and there generally is, an oxygen tent.⁸ Oxygen-starved blood can never do its best work; keep the patient as comfortable as possible, with morphine if necessary, and sit tight; if peristalsis returns, an enema is of value.

As soon as the patient fully reacts he may have tap water in small amounts and as his nausea subsides he may have hot tea and water as desired. If after 12 to 14 hours he is desirous of something more substantial, coca-cola syrup over crushed ice,⁹ or a bottled coca-cola that has been stirred until the gas has escaped is usually, here in the South, a welcome drink and is generally

retained. On the second day some stick candy, broth, bouillon, custards, jello, various ices, etc., as desired and tolerated. An important thing to keep in mind is that if the Levine tube has to be used, food particles stop it up and make stomach lavage tedious. Keep the food liquid until all fear of disturbing distention has passed. Fruit juice and milk are contraindicated until the fourth or fifth day.

Catheterize the patient within 12 hours following the operation unless he is comfortable and there has been excessive sweating or little fluid intake. Under such conditions one can wait another 4 to 6 hours. To permit the bladder to become overdistended robs it of its normal tonus,¹⁰ which it regains slowly and renders it an easy prey for infection. Frequent dribblings of urine suggest distention and overflow. If one fears cystitis following catheterization he may instill into the bladder his favorite solution; a good one is one ounce of 1/2 per cent aqueous solution of mercurochrome,¹¹ which seems to increase the tonicity of the bladder and encourage voiding. As to its antiseptic effect, I do not know. If the kidneys are able to concentrate the urine there should be a minimum of 500 cc. output;¹² if not, 750 to 1,500 cc. should be the daily output, depending on the concentration.

A small soda enema can be given on the afternoon of the second day, if the rectal tube has been used and the patient continues to be tantalized with gas pains. One is given routinely on the third day unless the patient is comfortable. If constipation is the rule prior to operation, an inquiry is made as to his most satisfactory laxative. This is given the night of the third day, followed by a soda enema the next morning unless normal evacuation takes place. If constipation is not the rule one ounce of mineral oil or mineral oil and agar,¹³ if tolerated, may be given three times daily after meals beginning the morning of the third day until normal evacuation occurs. Drastic purgation is mentioned to be condemned.

A good plan is to permit no visitors for the first four days except the immediate family, and even then an overly-solicitous

mother or wife may wake the patient to inquire if he feels all right. On the fifth day if the postoperative course is normal, close friends may call for 10 or 15 minutes, never allowing more than two in the room at one time, permitting only 3 or 4 such calls daily. This should be explained to the patient lest she become upset from lack of visitors. No business except matters of extreme importance should be transacted from a hospital bed.

There is no reason for a rubber sheet under the patient unless it is a drainage case, or a child. A cotton pad that mothers use to protect a baby's mattress will afford ample protection from perspiration and occasional soiling. It is impossible for a well person to sleep peacefully on a rubber sheet during the heat of summer.

Volumes have been and are being written on sulfanilamide and sulfapyridine. Suffice it to say, they are valuable adjuncts in the treatment of postoperative complications. Sulfanilamide can be given with ease in a saturated solution with normal saline.⁴ The unofficial reports of the new ones—sulfathiazole and sulfamethylthiazole—that one gathers here and there are particularly encouraging in the treatment of staphylococcic infections.

Nursing care has a far more important part in the convalescence of the patient than the surgeon offhand realizes. A well-mannered, neatly-clad, efficient nurse can do much toward alleviating the fear and dread of hospitalization and subsequent operation. On the contrary, a bedraggled, overworked nurse with a bored attitude may incur in him a distrust of the hospital and all things attached to it.

All patients get along better if a special nurse is in attendance. With some it is a luxury, with others a necessity. Surely many people living today owe their existence to the ministering of a good nurse. A real sick patient requires the services of one person in constant attendance and many times almost constant attention of the doctor.

The wise surgeon selects nurses for special duty with some care, certainly one whom he knows and in whom he has implicit confidence. It certainly is a mistake to employ

the most popular girl at the hospital for a man whose wife is overly-jealous. An experience of this kind nearly drove the patient, the nurse and the doctor to distraction until the nurse sensed the situation and retired from the case. Likewise, an elderly bachelor would be unhappy with one of those big buxom girls from the country who are so comforting when the patient is sick and there is work to be done.

Overlooked, in the hustle and bustle of making a living, too often is the fact that the patient is not a complex piece of machinery that always acts in the same way if one of its component parts is removed, or adjusted, or wears out. Stick a gun in one man's ribs, he will throw up his hands and nearly faint; another will grab the weapon and with almost superhuman strength overpower his antagonist. The anatomist nor the surgeon can find no essential difference between them. They have identical organs; they have equal strength. Many experienced surgeons will not operate on a person if that individual is convinced that death will be the outcome even though the operation is urgent and the patient willing.

Utmost confidence in the doctor is of paramount importance in the assurance of smooth convalescence. Offhand, one feels that if the patient permits operation, the implication of confidence would be assured. So many times, however, the insurance company, the boss or some other member of the family rather pushes on the sick patient the surgeon of their choice and as his mind clears from the fog of anesthesia, he may for the first time be able to study his doctor. Certainly one would not expect such a person to be well pleased with a casual good morning, a pat on the abdomen, routine orders and "see you tomorrow."

There is no way of knowing the qucer distorted ideas patients attach to certain symptoms unless they are given sufficient time and encouragement to unfold them. The convalescent developing a cough or sore throat, however trivial, expects and is entitled to an examination of the chest and throat. Once done, the simple assurance that the lungs are normal may mollify a tormenting fear of pneumonia. On the con-

trary, another may have a sharp pain in the chest or pain in the thigh and feel that it "goes" with the operation.

To turn in bed and breathe deeply occasionally as soon as the patient becomes fully conscious lessens the chances of future complications. Here again, such information must be imparted. So many patients feel that to turn on one's side may cause their stitches to break, and hence will lie perfectly still, despite the discomfort, until permission is granted or instructions given to the contrary. We must not forget that unusual individual who is so completely sold on the doctor and on carrying out orders that he will not expel flatus without specific permission.

Inspection of the legs and thighs daily, with associated questioning, will not permit phlebitis to be present several days before discovery. This is particularly important in light of the recent work of Ochsner and DeBakey¹⁵ who report 15 patients with thrombophlebitic processes treated with procaine hydrochloride block of the sympathetics. They report prompt and permanent relief of pain in all instances, normal temperatures in one-half the patients within forty-eight hours and in the other half within a week; the edema subsiding completely in eight days in one-half the patients and the remaining ones within twelve days. They feel that the earlier the therapy is instituted the better will be the result.

The dressing should be changed at any time if it becomes soiled or irksome; the sutures removed when the wound has healed, this being generally about the seventh to the tenth day. Remove one stitch in different parts of the wound and by making slight pressure with a forcep on either side of the incision, one can note whether or not the union is firm. If separation of the edges takes place, the remaining sutures should be left in situ a few more days. The fatter the abdomen, the slower the healing.

Getting the patient out of bed and back to work is a long story and is dependent on too many things to discuss here. Frequently, however, the convalescent, chafing under the stress of inactivity and the loss of income, will gain our consent to resume work a little

sooner than good judgment dictates. This is unfortunate in that he is exhausted daily for the first few weeks and should he fail to pay his bill all future abdominal complaints will be laid at the surgeon's door for allowing him to go to work too soon.

Certainly, postoperative care⁸ should last until the patient can carry on with his work as well or better than before the operation.

Summary

Blood transfusions are helpful in the treatment of shock.

Patients should have a minimum of 3,000 cc. fluids daily. Unless there has been a marked loss or continual losing of chlorides, one liter of normal saline daily furnishes enough chlorides.

The intravenous drip is of value in long-drawn-out cases where large amounts of fluid are required.

The Levine tube, Wangenstein's suction and oxygen are beneficial in troublesome distention.

High carbohydrate food is generally tolerated well on the second day, if desired.

Hasty routine visits by the attending surgeon is condemned.

The possibility of thrombophlebitis should be kept in mind and treated early if it occurs.

A plea is made for closer patient-doctor relationship.

BIBLIOGRAPHY

1. Beard, J. W., and Blalock, Alfred: Intravenous Injections—A Study of the Composition of the Blood During Continuous Trauma to the Intestines When No Fluid Is Injected and When Fluid Is Injected Continuously, *J. Clin. Investigation*, 11: 249, 1932.
2. Crissman, Ralph D., Blalock, Alfred: Shock—A Consideration of Prevention and Treatment, *American Journal of Surgery*, XLVI, No. 3: 417 (Dec.), 1939.
3. Coller, Frederick A., Dick, Vernon S., Maddock, Walter G.: Maintenance of Normal Water Exchange with Intravenous Fluids, *J. A. M. A.*, 107: 1522 (Nov. 7), 1936.
4. Orr, Thomas G.: Water and Chemical Balance in Surgery, *American Journal of Surgery*, 18: 279 (Nov.), 1932.
5. Fantus, Bernard: Fluid Postoperatively, *J. A. M. A.*, 107: 14 (July 4), 1936.
6. Matas, Rudolph: The Continued Intravenous Drip, *Annals of Surgery*, 79: 643 (May), 1924.
7. Wangenstein, O. H., and Pain, J. R.: Treatment of Acute Intestinal Obstruction by Suction with a Duodenal Tube, *J. A. M. A.*, 101: 1532, 1933.
8. Reams, Glenn H.: The Importance of After Treatment of the Surgical Patient, *Ohio State Med. Jour.*, 33: No. 9, 986 (Sept.), 1937.
9. Roberts, C. W.: Personal Observation.
10. Learmonth, J. R.: Postoperative Care. *The Practitioner*, 138: 236 (Jan.-June), 1937.
11. Woodruff, J. Donald, Te Linde, Richard W.: The Postoperative Care of the Urinary Bladder, *J. A. M. A.*, 113: No. 16, 1451 (Oct. 14), 1939.
12. Maddock, Walter G.: Maintenance of Fluid Balance, *American Journal of Surgery*, XLVI: No. 3, 426 (Dec.), 1939.
13. Mahoney, Louis E.: Rational Postoperative Treatment Following Abdominal Operation, *American Journal of Surgery*, XLV: No. 3 (Sept.), 1939.
14. Marshall, Jr., E. K., and Long, Perrin H.: The Intravenous Use of Sulfapyridine, *J. A. M. A.*, 112: No. 17, 1671 (April 29), 1939.
15. Ochsner, Alton, and DeBakey, Michael E.: Thrombophlebitis, *J. A. M. A.*, 114: No. 2, 117 (Jan. 13), 1940.

CHRONIC BRUCELLOSIS*†

*Report of Two Cases in Children
Diagnosed by Intracutaneous Tests*

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Acute brucellosis rather than chronic is more likely to be suspicioned and diagnosed by the average physician, therefore this paper concerns chiefly the more obscure form.

No doubt the incidence of acute brucellosis in children is low, but I believe from my experience, and what I have seen and read, that a diagnosis is frequently missed because only one, or at most two tests are used. The symptoms of chronic brucellosis are not striking enough to cause the average family to seek further diagnostic advice.

In reviewing the literature, and particularly recently revised editions of standard reference and textbooks on diseases of children, such as the work of Griffith and Mitchell¹ and Brennemann's *Practice of Pediatrics*², one finds the low incidence of undulant fever in children is always stated. So far, except by Evans and Robinson³, working in and about Charlotte, N. C., few diagnostic series have been worked out with children. Skin tests and more intricate diagnostic methods are merely mentioned by the majority of authors, and little significance has been attached to them as being of any great assistance. It is quite probable this attitude will gradually change.

In 1924 Keefer⁴ reported the first human case of undulant fever proved to be due to *B. abortus*. Before that the organism which causes bovine infectious abortion was thought to be nonpathogenic for man, though exposure with reaction had been proved by positive intracutaneous test by K. F. Meyer, in 1918⁵. The porcine and caprine varieties of undulant fever have been shown to occur in man. *B. abortus* by ingestion test is much less virulent than

the porcine and caprine¹¹. The disease may be so mild as not to be suspected. The latter may account to some extent for the relatively few human cases diagnosed in regions where incidence of abortus is high in cattle.

Epidemiology

It has been recently strikingly shown by many workers, Taylor, Vidal and Roman, 1934;⁶ and Meyer and Eddie,⁶ that cattle may be infected by strains other than the bovine, and transmit them to man, increasing the menace to raw milk consumers because of higher virulence. Surveys in various states show an incidence in cattle ranging from 10 to 90 per cent of *B. abortus* in the herds. The survey of cattle in Georgia is far from complete and they are being tested routinely only for abortus strains, not porcine or caprine. Georgia's standards of dilution for animal agglutination tests are those set by the Bureau of Animal Industry and are as follows: 1:50, 1:100, 1:200, 1:400.

Florida examiners, finding they were having sporadic carriers among their cattle have made much more rigid their dilutions, employing 1:25, 1:50, 1:100; 1:200. Using this standard on all cattle for admission to the state they find many more suspects. Of one group of 78 cattle tested in and near Thomasville in 1939, for importation into Florida, using Florida standards, 10 (12.8 per cent) were found positive, and 30 (38.4 per cent) qualified as suspicious, to be retested in three weeks. The positive reactors would have been determined with Georgia's dilutions, but Georgia's standards would have failed to detect the 38.4 per cent suspicious cows, a number of which, on later tests, were proven reactors.

Dietrich and Bonyne⁷ reported that as long as 1 per cent of a herd giving certified milk, therefore unpasteurized milk, were reactors, guinea pigs inoculated with the milk showed evidence of abortus infection at necropsy.

Kristenson⁸ working abroad, states that in only 35 per cent of cases is milk the sole source of infection, but when the two factors, milk and contact are present together, their association is the deciding

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factor. However, a number of cases have been reported in the literature of children 6-12 months of age with definite diagnosis of acute brucellosis from drinking raw milk, without contact.

Tabulation of the milk source of 614 school children with positive skin tests, Angle's¹² is most interesting, though the data are complicated by the fact that some of the children were directly exposed to the animals; 0.4 per cent used canned milk, 20.3 per cent used pasteurized milk and 79.3 per cent used raw milk exclusively.

Incidence

Brucellosis, according to American statistics, is predominantly a disease of adults and particularly of the white male. However, it still has its importance as a possible diagnosis in children. Statistics show the increasing incidence of the disease, probably due to increased diagnostic acuity, and partially to actual increase. In 1925 only 24 cases of undulant fever had been reported in the United States. In 1929 1,505 cases were on record. In Georgia there have been 297 cases reported in the past five years. Seventy-five of these occurred in children, and 7 were in the 5-9 age group. Eight were white children.⁹ Few intracutaneous tests have been used in our State. The incidence might have been increased had these been employed.

Angle et al¹² brought out, through routine skin tests in the schools of Kansas City, that in children under 10 years of age, about 5.7 per cent showed positive skin reactions. In the 10-14 and the 15-19 age groups 9.6 per cent showed positive reactions. These are rather striking figures and no doubt would vary from locality to locality, depending on the animal status in each place. Angle's basis for reading the lower grades of positive reaction may be questioned, as he grades 1 plus a reaction in 48 hours of 5x5 millimeters of edema and erythema. In reading a tuberculin test this size reaction would be discounted, more or less, or used as precedent for the use of more concentrated testing material. He used 0.1 cc. of 1:10,000 dilution of Huddleson's fat-free nucleoprotein preparation, "brucellergin;" and also

heat-killed vaccine, 0.04 cc. for each test (six billion organisms per cc.)

The Disease Itself

Symptoms are varied and kaleidoscopic and range from the acute, short 12-day febrile illness, which in a child could be called almost anything were no laboratory procedures used, through more protracted acute illness with typical remissions, to the protracted mild illness with symptoms of occasional elevation of temperature and fairly consistent anorexia, increased irritability and nervousness, occasional sweating and vague joint pains.

It is admitted that Malta fever is poorly recognized in infants in countries where it is endemic, and this is even more likely to occur with abortus infections which produce, as a rule, milder more chronic illnesses in which the physician is less likely to avail himself of the proper procedures, such as blood cultures, agglutination tests and skin tests. This is particularly true in infants and small children.

The outstanding symptoms occurring in 462 cutaneous reactors studied by Angle¹² were:

- Nervous symptoms occurring in 44 per cent.
- Headache occurring in 37.2 per cent.
- Rheumatic symptoms occurring in 34 per cent.
- Constipation occurring in 15 per cent.
- Fever in only 4.8 per cent.

This would make us conclude that neurasthenic children deserve investigation along these lines, as well as others.

Diagnosis with Laboratory Procedures

A Porto Rican, Morales-Otero,¹¹ has worked out the incubation period to vary between 10 and 17 days, using ingestion and abraded skin exposure. Blood cultures were positive in his cases from the fifth to the eleventh days. Agglutination tests were positive earliest on the tenth day and made their first appearance as late as the twenty-third day. This work is quoted to show the remarkable variance in the appearance time in controlled cases for the two most commonly used methods of diagnosis of brucellosis.

McBryde, Daniel and Poston¹⁰ working with a group in an orphanage who were drinking raw milk from a herd which showed 12 positive reactors among 87 cows,

found in 27 children the positive intracutaneous test and 6 with questionable reactions. Twenty months after the infected milk was discontinued, 26 of the 33 still reacted positively; seven had become negative. Using agglutination tests on 48 of the children three weeks after they had ceased to drink infected milk, 7 were reactors, although none of them had ever had symptoms of brucella infection. Two months later these 7 children had lost their agglutination reactions. Unfortunately, the entire group was not subjected to both intracutaneous and agglutination tests, but the intracutaneous test which remains positive over a longer period of time may be of more value in tracing epidemic sources, exposures, and chronic cases. Those writing on the subject agree that the intracutaneous test has about the same significance, in itself, as the positive tuberculin test. In other words, the clinical history and findings must be correlated with a positive skin test to give significance to the diagnosis of active chronic brucellosis.

According to Dietrich, "the allergic reactions induced by a properly prepared antigen may be so severe that the clinicians have quite generally declined to make use of this test."² However, Angle et al in their large series, using both brucellergin and heat-killed vaccine, made no mention of severe general allergic reactions, though with a certain number of severe reactors ulceration was noted. Brucellergin gave rise to less severe reactions, and when used the total of positive reactors was identical with the heat-killed vaccine group.

Wahl and I have been using a bacterial vaccine made from brucella abortus and brucella suis, equal numbers, using 0.05 to 0.1 cc. This vaccine is produced by Jensen and Salsbery Laboratories, under government license, in Kansas City, Missouri. So far there have been no severe reactions in our series. One would conclude that the materials used must have been improved, but caution should be employed in avoiding large doses, particularly in patients where the findings are strongly suggestive of brucellosis.

In addition to the cutaneous tests discussed agglutination tests and blood cul-

tures should be routinely done. The opsonocytophagic test, though more costly and less available, has its place in diagnostic procedures, along with cultures of urine, spinal fluid and bile. Evans and Robinson³ working in Charlotte, N. C., found the opsonocytophagic test positive in 4 of the 7 children for whom a diagnosis of chronic brucellosis had been made. It is interesting that in these 7 children all agglutination tests were negative, suggesting, as Evans said, that children might be more susceptible to brucella infection than is generally suspected; and that the disease might fail to be recognized because it occurs in a mild, obscure form without development of agglutinins.

It has been suggested that the biologic immaturity of the tissues of the younger child may explain the difference in the immune reactions obtained in infants and children. Heifers show a rather decided nonsusceptibility until they reach the breeding age, six months.⁷

The two patients to be presented are brother and sister.

Case Reports

Case 1. J. P., a boy, aged 6½, was first seen June 23, 1939. Chief complaint: running fever, over several years. In 1936 he had something that resembled influenza, which lasted about 10 days. Previous to that time he had had bottled chocolate milk bought at a roadside stand on a trip; otherwise his milk had been boiled and came from a dairy said to be acceptable. He had fever daily for a year, through 1937. However, he looked well and ate fairly well. Tuberculin tests, and agglutination tests for fevers, were negative at that time. In 1938 he missed a good deal of school because of occasional sore throat and frequent illness that could not be labeled. In the spring of 1939, about every three weeks, lasting three or four days, he had evidence of throat infection, and complained of "pain in the head." For a while this spring (1939) his temperature by mouth was 101 degrees every other Monday. However, he continued to gain weight steadily. Repeated smears for malaria were negative. Sinus films showed infected antra. The antra have cleared to a great extent with x-ray treatment, but the fever has continued. He has been constipated throughout present illness, and his history indicated anemia. Hookworm ova were not found this spring: blood agglutination tests were also negative.

Physical examination showed: temperature 99.2 F. by mouth, 99.8 F. by rectum. Weight: approximately normal. A rather tall, thin boy. Positive findings: swollen turbinates with a good deal of lymphoid tissue in nasopharynx. Tonsils absent. Granulation tissue behind and extending over both lower molars: gums were a little ir-

ritated in these areas. Spleen not felt. Laboratory: hemoglobin 12.4 grams (80 per cent); white blood count 10,300, with 52 per cent polys., and 47 per cent lymphocytes. Urine: uncatheterized specimen showed no pus, but culture showed staphylococci.

Special Procedure: One-twentieth cubic centimeter of a mixture of bovine and porcine bacterial vaccine intracutaneous showed 48 hours later 3—4 plus edema and redness.

Case 2. A. G. P., a girl, aged 4, was seen the same day, June 23, 1939. Chief complaint: fever and big tonsils. She had consumed the same milk her brother had, but had no subsequent illness. Her past history showed: whooping cough and frequent attacks of tonsillitis and bronchitis. Like her brother, she had a tendency to constipation. She had had pyelitis off and on for the past three years. During the past winter she had run a consistently rapid pulse rate, around 110 when asleep or awake. She had had pains in her legs and ankles. Since whooping cough in the spring she had not been well. She had had repeated attacks of tonsillitis, and one ear infection during the winter. She had been anemic.

Physical examination showed: weight slightly subnormal. Her temperature by mouth and by rectum 100 degrees, practically daily. She did not appear ill. Had huge tonsils which did not appear even subacutely infected; they were rather pale. She had a marked sinus arrhythmia, with a pulse rate of 112. Heart sounds clear.

Laboratory: Hemoglobin was 9 grams (62 per cent); white cell count 8,300, polys., 48; lymphocytes 51. Urinalysis (uncatheterized) showed staphylococci albus and colon bacilli, and a number of pus cells.

Special Procedure: Her skin test, using 0.05 cc. of the bovine and porcine bacterial vaccine, showed a 2 plus erythema and edema.

Both children had negative tuberculin tests.

Diagnosis: On the history and the positive intracutaneous tests diagnoses of chronic brucellosis were made, but this would not have been justified with the skin tests alone.

In consultation with Dr. Ernest Wahl it was agreed that we would not ignore the positive skin tests; neither would we direct specific treatment, which is still unsatisfactory, but attend and check other conditions. Both children were given pasteurized milk as a precaution.

A. G. P. has had her tonsils removed. When seen recently she had gained one pound, in spite of severe bronchitis following the operation. Her brother, who had the strongest test, had gained two pounds and both were much improved in color and appearance. Their appetites were excellent. To my surprise their skin tests showed minimal reactions, with 0.1 cc. of the bovine and porcine bacterial vaccine, double the dose of the previous skin tests.

The substitution of pasteurized milk for raw milk, boiled at home, must have removed a constant source of exposure and this lack of exposure, in turn, reduced the activity of infection and the degree of sensitization.

Previous to the diagnoses made with the positive skin tests, the family had been exceedingly worried trying to determine the cause for repeated fever and unlabeled illness. So far, I honestly think, results of this examina-

tion have been of more value in reassuring the parents than in helping the children. However, pasteurized milk has been introduced and their general conditions improved. Active specific therapy can be used subsequently if the necessity arises.

The skin test in the case of the boy was the one simple procedure which had not been done. The history was strongly suggestive of brucellosis. His sister's test was given as a control. Hereafter I shall include this intracutaneous test among the routine tests in all patients with obscure fever.

Summary

Two case reports of children whose clinical histories together with positive skin tests enabled us to make a definite diagnosis of chronic brucellosis, probably of three years' duration. The strongly positive skin reactions became minimal in two and one-half months, during which time the children had no common change of regime except that they had been given pasteurized instead of raw milk. Agglutination tests, as is frequently the case in children, had proved of no value in diagnosis.

Chronic brucellosis has probably not been diagnosed as often in humans as it should have been, particularly in children, through failure first to recognize a possibility of its occurrence; and secondly, through failure to use the available methods to eliminate it as a possibility.

A positive intracutaneous test is not alone sufficient for diagnosis. It merely signifies exposure and sensitization, and should be correlated with clinical history; and, where possible, other accepted tests for confirmation. It is quite simple to perform but should be carefully read.

Cattle should be tested routinely for all types of brucella. This would save the farmers great economic loss from abortions in cattle, and reduce the incidence of the disease in man, both through meat contact and consumption of milk and milk products. Where possible more stringent requirements for cattle testing should be enforced. Florida's requirements would seem to be more satisfactory and foolproof than those in force in Georgia at the present time.

Pasteurized milk should be given to infants and adults wherever possible. Evaporated milks are the choice when pasteurized milk is not available.

REFERENCES

1. Griffith, J. P. Crozer; Mitchel, A. Graeme: Diseases of Infants and Children. Philadelphia, W. B. Saunders Company. 297-299. 1937.
2. Dietrich, Henry: Undulant Fever. Practice of Pediatrics, edited by Joseph Brennemann, Hagerstown, Maryland, W. F. Prior Company. Volume II, Chapter 33. 1938.
3. Robinson, Frank H.; Evans, Alice C.: Chronic Brucellosis in Charlotte, N. C. J.A.M.A. 113: 201 (July 15) 1939.
4. Keefer, C. S.: Report of a Case of Malta Fever Originating in Baltimore, Maryland, Bulletin—Johns Hopkins Hosp. 35:6-14. (Jan.) 1924.
5. Fleischner, E. C.; Meyer, K. F.: The Bearing of Cutaneous Hypersensitiveness on the Pathogenicity of the Bacillus abortus bovinus. Am. J. Dis. Child. 16. 268-273. 1918. Quoted by Angle. (Reference 13).
6. Taylor, R. M.; Vidal, L. F.; Roman, G.: Persistance de Brucella melitensis (variete caprine) chez de vaches naturellement infectees, Compt. rend. Soc. de biol. 116: 132-134. 1934.
7. Meyer, K. F.; Eddie, B.: The Problem of Caprine Brucella Infections in the United States. J. Am. Vet. M. A. 86. 286-303. 1935. Quoted by Evans. (Reference 3).
8. Dietrich, Henry; and Bonyngne, Charles W.: Undulant Fever in Childhood. J. Pediat. 1:46. (July) 1932.
9. Kristensen, Martin: Extrait du Deuxieme Congres international de Patholog Comparee. 1930.
10. Bowdoin, C. D.: Director Division Prevention of Disease, State of Georgia. Personal communication.
11. McBryde, Angus; Daniel, N. C.; and Poston, M.A.: Brucella Infection in Children. Agglutination Reactions and Intracutaneous Tests. J. Pediat. 4:401-405. (March) 1934.
12. Morales-Otero, Pablo: Porto Rico J. Pub. Health & Trop. Med. 6. 1930.
13. Angle, Fred E.; Algie, William H.; Baumgartner, Leona, and Lunsford, W. F.: Skin Testing for Brucellosis (Undulant Fever) in School Children. Ann. Int. Med. 12:495. (Oct.) 1938.
14. Angle, Fred.; Algie, William H.: Chronic Brucellosis (Undulant Fever): An Analytical Study of the Positive Reactors among School Children. Ann. Int. Med. 12: 1189. (Feb.) 1939.
- Articles not directly referred to but indirectly used in preparation:
15. Gould, S. E.; and Huddleson, I. F.: Diagnostic Methods in Undulant Fever. (Brucellosis) J. A. M. A. 109:1971. (Dec.) 1937.
16. Guest, George Martin: Brucella Abortus Infection in Children. Ohio State M. J. 26:221. (March) 1930.
17. Fliess, Maurice M.; Forge, Clifton; and Jordan, J. V.: Brucella Abortus Infection in Early Infancy. J. Pediat. 3:502. (Sept.) 1933.

ADVISE TESTS FOR PRENATAL SYPHILIS FOR ALL CHILDREN IN DISPENSARIES

Routine blood tests for prenatal or inherited syphilis are recommended for children's dispensaries or hospitals by Willie Mae Clifton, M.D., and Mary O. Heinz, B.A., Chicago, in *The Journal of the American Medical Association* for May 4.

They report an incidence of 0.46 per cent in 5,625 children from 1 day to 13 years of age. These 5,625 children, twenty-six with prenatal syphilis, were seen by the authors during a period of one year at the clinic for sick children of the Children's Memorial Hospital.

Separating the children as to race, they found that only 3.3 per cent or 185 of the total clinic population were Negro children and of these 2.7 per cent had prenatal syphilis, making the incidence among white children 0.4 per cent.

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RECENT ADVANCES IN THE TREATMENT OF MENTAL DISORDERS

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During the past decade marked progress has been made in our understanding of the factors involved in the production of mental disorders. Corresponding to our increased knowledge of cerebral mechanisms several new treatments for relief of abnormal mental reactions have been devised. Some of these treatments are of real value and enable the physician to cure a larger per cent of those who would otherwise succumb to mental diseases. During the past ten years psychiatrists have stressed more than ever the fact that those who are mentally ill are sick individuals and should be treated as such as long as there is hope for improvement or recovery. Therefore, it is advisable to make a complete diagnostic survey in each individual case.

Among the comparatively new treatments that are now used quite extensively, and which we shall discuss in this paper, are fever therapy and tryparsamide, which are now used in the treatment of paresis and some cases of neurosyphilis; sulfanilamide in streptococcic infectious psychoses; shock treatment, which includes insulin and metrazol injections; some of the hormones now used in endocrine disturbances; and in our opinion the most important of all treatments, the giving of a well-balanced diet which includes vitamins, minerals and other food elements so essential for the proper nutrition of the body.

Fever Therapy and Tryparsamide in Neurosyphilis

Prior to 1915 the medical profession was of the opinion that paresis was a parasymphilitic disease; that is, they thought that spirochetal infections in the heart, blood vessels, liver and bones produced a toxin which caused degenerative changes in the central nervous system, especially in the cerebral cortex. In 1915, however, Noguchi and Moore demonstrated spirochetes in the parenchyma of the cortex in patients who had died of paresis, showing that the disease

is due to a direct infection of the cerebral structures. After the discovery of spirochetes in the brain clinicians immediately attempted to find a way to destroy them by chemotherapy without injuring the brain itself. Apparently arsphenamine when injected into the blood stream does not enter the cerebrospinal fluid, except in very small amounts, and therefore does not come in contact with spirochetes located in the parenchyma of the cord and brain. Mercury and bismuth also are apparently almost valueless. Tryparsamide in those earlier days was an impure drug, and when administered sometimes caused optic atrophy. In 1920 Nuhlens, Weyganst and Kirshbaum introduced what is usually called the malarial fever therapy for the treatment of neurosyphilis. They inoculated patients with tertian malaria, allowing each patient to have from 8 to 15 paroxysms of chills and fever. The malaria was then cured by the administration of quinine. Apparently the high temperature of the body following malarial therapy killed the spirochetes. Other means of raising the temperature of the body either by injections of typhoid vaccine or by diathermy have been used with a fair degree of success. Paretic patients receiving the fever therapy have, as a rule, longer remissions and in some cases there are apparent cures. The fever treatment, however, does not restore nerve cells or nerve tissues that have already been destroyed. Though the active symptoms of the disease may disappear a certain amount of mental deterioration with a partial loss of judgment usually remains. Tryparsamide, given once a week for a period of several weeks in 2 gram doses, is also very helpful in cases of paresis or tabes dorsalis. It may be given in conjunction with fever therapy or in connection with mercury or bismuth. In 1936 Epstein, Solomon and Kopp¹ analyzed the results of 648 cases of paresis treated either by malarial fever, mechanical hyperpyrexia or tryparsamide. Prolonged remissions occurred in 45 per cent of the malaria treated cases, 42 per cent in those treated with tryparsamide and in 27 per cent of those treated with diathermy. We have used tryparsamide quite extensively

and the results compare favorably with fever therapy. In two of our parietic patients clinical cures have occurred.

Sulfanilamide in Streptococcic and Gonococcic Infections with Mental Symptoms

Occasionally a streptococcic or gonococcic infection causes an infectious-toxic delirium. In these cases sulfanilamide given in the usual dose is very helpful and we have had patients who were restored to a state of mental balance in a period of ten days.

The Shock Treatment of Mental Disorders

For many years physicians have recognized that a severe emotional shock, such as severe fright, would at times cure quite suddenly a case of hysteria, or even a case of catatonia of functional origin. It is now believed by many psychiatrists that hysterical blindness or paralysis is due to an overstimulation of the central inhibitory mechanisms regulating particular centers in the brain. These centers are thus blocked off and are unable to function. A severe emotional shock, however, may release the inhibitory mechanisms, thus restoring the normal functioning of the mind. Many neurotics and psychoneurotics suffer from blocked-off branches of the mental tree and are unable to discharge pent-up nervous energy through normal channels. It is now believed by some psychiatrists that pharmacologic shocks have a tendency to unblock and drain off energy from abnormally repressed mental mechanisms. This is one of the theories advanced for the use of insulin and metrazol in the treatment of certain cases of hysteria, schizophrenia and in some cases of manic-depressive psychoses. In fact, the human race has used for ages either mental or chemical methods for draining off nervous energy. The ceremonial orgies of primitive peoples and the heated political campaigns among the civilized are examples of the draining-off of dammed-up emotional energy. For the release of the inhibitions that block-off the primitive emotional centers, alcohol has been used since time immemorial. Psychoanalysis as developed by Freud and his pupils is another method of adjusting mental mechanisms by unblock-

ing repressed emotional units and, when properly used in certain types of cases, is one of the best of methods. Psychoanalysis should be made by a psychiatrist who is specially trained to do this line of work.

Insulin Treatment

In 1933 Sakel² commenced the use of insulin in the treatment of dementia praecox. Previous to Sakel's first report in 1936, many physicians had given insulin in from 5 to 25 unit doses daily for the purpose of increasing the appetite in patients who refused food. In 1932 we shocked a catatonic praecox patient out of his physical and mental inaction with an injection of 25 units of insulin each morning for the purpose of increasing his appetite. It did not occur to us at that time, however, that insulin caused the remission, as we only gave it to prevent the too frequent use of the nasal tube. Briefly, Sakel's method is as follows: the patient eats no breakfast. At 7:30 A.M. he is given an initial dose of insulin of from 10 to 14 units. The patient is kept under close observation and then at noon food containing dextrose is given. The amount of shock is manifested by the degree of drowsiness or slight coma. Each day the amount of insulin is increased until the patient develops a semicomatose state lasting about three or four hours. To relieve the patient of coma, dextrose in 1 ounce doses is dissolved in orange juice or water and given orally. Soon afterwards a regular meal is given. After the first three or four treatments the patient, as a rule, is clearer mentally and is more composed. He likes the treatment and states that he is feeling better. Insulin is given each morning for five consecutive days and then he has a "rest period" for two days when he is allowed breakfast and is not given insulin.

The second week the same shock dose, which varies with each patient, is continued for another five days followed by another rest period. This method is continued from four to six weeks. Close observation of the patient is required when he is in a state of shock or in a state of semicoma. He perspires freely and his skin is cold and clammy. Frequently there is nystagmus

and conjugate deviation of the eyes, and in the last stages of the shock he may make weird grunting sounds. If the shock becomes too great glucose must be administered immediately, either orally or intravenously. Occasionally in a very small per cent of the cases, the shock becomes irreversible and in spite of all treatment, the patient dies. Irreversible shock is rare but when it does occur it is probably due to an exhaustion of the respiratory and vasomotor centers.

During the first two weeks of the treatment over 75 per cent of patients improve markedly and according to recent statistics 36 per cent remain permanently improved. Many of the patients who show marked improvement during treatment relapse in a few months or years, after which their condition becomes chronic. Notkin, Niles Denatale and Wittman³ have recently reported 50 dementia praecox patients treated with insulin and compared results with 65 cases treated in the usual way without insulin. After a period varying from eight months to two years the final results noted in the two groups of cases were approximately the same. In the insulin treated group 36 per cent of the patients, after a period of one to two years, were able to adjust themselves socially, while in the untreated group 35.7 per cent recovered sufficiently to return home. Recently Phipps Clinic⁴ at Johns Hopkins made a survey of 500 patients treated at that institution diagnosed as schizophrenia or dementia praecox and who had been out of the clinic for a period of five years or over. They found that after 20 years 27 per cent of the patients had recovered sufficiently to adjust themselves socially without either insulin or metrazol and an additional 13 per cent were capable of some productivity. Many other statistics have been published, some of which are more favorable than those just quoted, especially when the treatment is given in the very early stages of the disease. Taking all statistics into consideration, together with our own experience, we have come to the conclusion that insulin improves the majority of praecox patients temporarily, but does not change the course of the disease in a permanent

way. It seems to us that about 36 per cent of schizophrenic patients suffer from a temporary disturbance, from which they will recover without insulin, provided foci of infections are removed, endocrine disorders corrected and a balanced diet is administered. A large number of schizophrenic patients suffer from sub-nutrition. It seems that about 63 per cent of the schizophrenias are due to a fundamental defect in their constitutional make-up. As they unfold from boyhood and girlhood into adulthood, their bodies and mental peculiarities prevent a normal adjustment to a complex social environment.

We have found that insulin, when given in appetite stimulating doses of from 5 to 20 units daily, is very beneficial to patients suffering from the manic-depressive psychoses and in the toxic psychoses when such patients refuse to eat. They are kept in a better state of nutrition and in some cases no doubt insulin means the difference between life and death.

Metrazol Treatment

In 1935 L. Von Meduna reported a series of dementia praecox patients treated by intravenous injections of metrazol (cardiazol). He reported that in convulsive doses the remissions were more complete and lasted longer than in untreated cases. After Meduna's first report the use of metrazol, in convulsive and sub-convulsive doses in the treatment of many types of mental diseases, spread rapidly throughout the world. It has been tried with varying degrees of success in the symptomatic types of schizophrenia, in cases of incurable dementia praecox and in the manic-depressive psychoses. At Bellevue Hospital⁵ they have given metrazol in sub-convulsive doses to over 1,199 comatose or disorderly alcoholics. They found that if 5 cc. of metrazol are given slowly intravenously a convulsion will not occur in a person under the influence of alcohol. The time required for an injection of a sub-convulsive dose is from 30 to 60 seconds. If the same amount of metrazol is injected rapidly, say in 2 seconds, it enters the blood stream in concentrated form and a convulsion usually occurs. In fact 3 or 4 cc. when injected

rapidly will cause a convulsion in the majority of patients.

When all statistics are taken into consideration the results obtained in metrazol treatment of dementia praecox are not quite as favorable as those with insulin. During treatment there is often a temporary improvement even in the most stubborn and chronic cases. In the symptomatic cases of schizophrenia the improvement is also rapid, but it must be remembered that these patients usually recover regardless of the treatment used. We have used metrazol in the treatment of about 20 patients with schizophrenia. Some of the chronic cases apparently were permanently improved, but were not able to return to work. About the same per cent of the acute cases recovered as occur with other forms of treatment. We have used it in four obsessional psychoneurotics without benefit. In sub-convulsive doses we have used it to quiet severely excited patients and have found it quite helpful. We have had no experience in its use in alcoholism.

Hormones in the Treatment of Endocrine Imbalance

Endocrine imbalance is frequently observed in those suffering from mental diseases. While in recent years the mechanisms of endocrine interrelationship have been fairly well worked out, yet in administering hormones artificially it should always be remembered that when given in too large doses or over too short a period, the other glands of internal secretion are likely to become upset. In the treatment of menopausal depressions the estrogens are of value and, when given in proper doses over a sufficient length of time, they frequently act in a beneficial way. Recently testosterone has been used in the depressed states in men. Some authorities have reported good results while others state that the patients receive but little, if any, benefit.

The Treatment of Sub-Nutritional States

In the treatment of nervous and mental diseases, sub-nutritional states should always be considered as one of the possible etiologic factors.⁶ In some cases, as in pellagra and multiple neuritis, a dietary deficiency may be the sole cause. In our experience sub-nutritional states are present

in about 80 per cent of our patients. While in the majority of cases it is only one of the many contributing factors, diet in all cases should be considered carefully. When an analysis is made of the dietary history of mental patients, we usually find that those suffering from schizophrenia, hysteria, the toxic psychoses, and in some cases of the manic-depressive psychoses, are suffering from, and have been suffering from, some form of malnutrition for months or years. Most of the above mentioned types of cases are vegetable eaters and deficient in proteins, minerals and vitamins. It is very remarkable how some of these patients will improve when placed on a diet of meat, eggs, milk and whole-wheat bread.

There seems to be a biologic reason why people who eat meats, fish, eggs and cheese and milk are more likely to remain in an optimal state of health than those who live almost exclusively on vegetables. When the phylogenetic history of the white race is considered, we find that our ancestors in Northern Europe for thousands of generations lived mostly on a meat diet, we can understand why our digestive functions and metabolic processes became adjusted to concentrated foods. In the United States, especially in the South, vegetables are consumed in large quantities to the exclusion of a sufficient amount of fish and beef, and as a result the population as a whole does not take a sufficient amount of protein. For bread our ancestors used only whole-grain ground into flour which contained a fair amount of vitamin B, which is so essential to proper nutrition. It is probable also that the consumption of white flour to the exclusion of whole-wheat flour is a marked factor in sub-nutritional states. Vegetables contain a large amount of potassium and, if we have been correctly informed, people who eat largely of vegetables have in their blood stream a larger amount of potassium than those who live mostly on meat, eggs and milk and it may be that this alone brings about an imbalance in the chemistry of the body which may be a marked contributing factor in such disorders as migraine, hysteria and schizophrenia.

H. D. Allen⁷ has recently published some statistics which he obtained from the Geor-

gia State Hospital at Milledgeville. In 1914, when it became evident that pellagra was a dietary deficiency disease, the death rate at the hospital was 133 per thousand. After 1914 larger amounts of meat, eggs and milk were given to the patients instead of the almost exclusive vegetable diet they had previously received. *The annual death rate per thousand gradually declined until 1922 when it dropped to 54 per thousand. Since then, with minor variations, it has remained the same. The statistics from the Georgia State Hospital alone prove that a diet containing meat is one of the main factors in maintaining an optimal state of health.

Vitamin B¹ in conjunction with a balanced diet is a specific in alcoholic neuritis and is very valuable in the treatment of Korsakoff's psychosis. During the acute states of the disease it should be given hyperdermically in from 6 to 10 mg. daily. After the patient has recovered the administration may be continued orally for several weeks. Nicotinic acid is also valuable in the treatment of pellagra and in certain of the sub-nutritional toxic psychoses, provided a balanced diet is also given. In giving nicotinic acid it is well to remember that it dilates the superficial blood vessels of the skin, producing a sense of warmth and occasionally an erythema will occur about the face, neck and chest, resembling the rash of scarlet fever. Sydenstricker⁸ and his associates have recently reported good results in the use of nicotinic acid in the treatment of several patients suffering from atypical psychotic states. Our own experience with nicotinic acid is very favorable in pellagra as well as in many other types of dietary deficiencies.

In conclusion we wish to emphasize the fact that much progress is being made in the treatment of nervous and mental disorders.

BIBLIOGRAPHY

1. Epstein, S. H.; Solomon, H. C., and Kopp, I.: Results of Treatment of Dementia Paralytica with Diathermy Fever: *J. A. M. A.* (May 2) 1936.
2. Dussick, Karl Theo, and Sakel, Manfred.: Hypoglycemic Shock Treatment of Schizophrenia: *Ztschr. f. d. ges. Neurol. u. Psychiat.* 155-351-516, 1936.
3. Notkin, J.; Niles, C. F., DeNatale, F. J., and Wittman, G.: A Comparative Study of Hypoglycemic Shock Treatment and Control Observation in Schizophrenia: *Am. J. Psychiat.* (Nov.) 1939.

*The death rate in all mental hospitals in the United States averages about 65 per thousand.

4. Rennie, Thomas A. C.: Follow-up Study of Five Hundred Patients with Schizophrenia Admitted to the Hospital from 1913 to 1923; Baltimore: Arch. of Neurol. and Psychiat. (Nov.) 1939.
5. Orenstein, Leo; Bowman, Karl M.; Kagan, Julia R., and Goldfarb, Wallace: Use of Metrazol in the Treatment of Acute Alcoholism: Am. J. Psychiat. (Nov.) 1939.
6. Brawner, Jas. N.: Dietary Deficiencies as Contributing Factors in Mental Disorders: J. M. A. Georgia. (Feb.) 1934.
7. Allen, H. D.: Mortality in Psychotic Illness: South. M. J. (Jan.) 1940.
8. Cleckley, H. M.; Sydenstricker, V. P., and Geeslin, L. E.: Nicotinic Acid in the Treatment of Atypical Psychic States Associated with Malnutrition: J. A. M. A. 112: 2107 (May 27) 1939.

ETIOLOGIC FACTORS OF STERILITY IN THE MALE*

Report of Case

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Human sterility is a single disease of two individuals. Scientifically defined, it is the inability of spermatozoa to initiate fertilization of the ovum. This definition does not include those cases which abort spontaneously or miscarry, even though some of these instances may be related to abnormalities of the spermatozoa. The problem at hand, therefore, is to consider all of the factors which may contribute to failure of fertilization. Simple as this may sound, it is actually a problem of great complexity, not localized to the generative tracts of either the male or the female, but one which necessitates a study of the entire body as well.

During the past twenty-five years interest in this problem has been thoroughly aroused. A barren marriage not long ago was considered entirely the fault of the female. So long as the male retained the ability to initiate, perform and complete the sexual act, he was absolved of any blame. Gradually with study of the problem, with increasing knowledge of the endocrines, and laboratory methods of analysis in the semen, the subject has come to rest on a scientific basis. During the past ten years there has been appreciation that the male shares the responsibility. Statistically, in cases of sterility, the ratio of blame is female 60 per cent; male 40 per

cent. Through the splendid work of Williams and Savage, veterinarians who studied habitual abortion in cattle; Moench's contributions to our knowledge of the morphology of spermatozoa; and Meaker's correlations of the many loose ends of the problem, we physicians are in a position to accurately diagnose and treat patients with involuntary sterility. In the United States 10 to 12 per cent of all marriages are barren; that is, two million couples of child-bearing age are unable to have children. Each year over 100,000 wanted infants should be born, and are not, due to failure to conceive. With accurate diagnosis and treatment about 20 per cent of these couples can be granted offspring. Therefore, the problem assumes a dignity and importance of the first magnitude.

In addition the psychiatric and social disturbances caused by barren marriages are scarcely appreciated by the profession. It should be needless to state that a childless home tends toward marital unhappiness. The wife who has not fully experienced a pregnancy and delivery, disagreeable as it may seem to her at the time, realizes only too well that the strong procreative instinct has not been answered.

Fertility in the male implies the production of spermatozoa, normal qualitatively and quantitatively, delivered, mixed with the fluids from the accessory glands of the generative tract, to the female cervix. Any disturbance which may interrupt this cycle at any point may contribute to male sterility. If there are several or more contributing factors the level of fertility may be so lowered as to cause sterility. Perhaps only one or two minor inhibiting factors are present, which when combined are insufficient to bring the individual into the class of sterility. He still may possess the power to procreate. The importance of the various factors involved determine the sterility status. One factor may be sufficient to cause sterility in itself, whereas several, although reducing the fertility level from absolute to relative fertility, may be insufficient to cause sterility.

From the viewpoint of the production of the spermatozoa let us consider the testicle.

*Alternate paper on the program of the Medical Association of Georgia, Savannah, April 24-26, 1940.

Castration of course precludes the possibility of spermatogenesis. Undescended testes, if left undisturbed through puberty, do not produce spermatozoa in normal amounts or of proper quality. Destructive testicular diseases such as gumma of syphilis, orchitis of mumps, tuberculosis of testicle (rare), traumatic orchitis, varicocele and tumors interfere with normal manufacture of spermatozoa. Excessive warmth applied to the scrotum inhibits their development. This fact is well established. A sack of red flannel covering the scrotum of the ram has been shown to be deleterious to spermatogenesis. The same results were obtained with hot water running over the guinea pig scrotum. In addition may be mentioned atrophy of the testicle following circulatory constriction of the spermatic cord secondary to herniotomy. More rarely exposure to x-ray causes tubular degeneration following a mild spermatogenic stimulative effect.

There are numerous constitutional diseases which have a secondary effect. Anemia-producing conditions, such as malaria, pernicious anemia and chronic infections may seem remote, but they may affect the body economy. The same may be said for debilitating and cachectic diseases. Drug addiction and alcoholism influence spermatogenesis in so far as constitutional depression and the interference with proper diet are concerned. It has been shown that diets insufficient in protein and vitamins depress the male fertility level. However, among the constitutional conditions the role of the endocrine glands is more important. Meaker states that in 58 per cent of cases of involuntary sterility there is some endocrine disturbance.

The relationship between endocrines and reproduction has been well established. Reduced to known facts the hormones prolan A, or the follicle stimulating hormone, and prolan B, the luteinizing hormone, both produced by the anterior lobe of the pituitary, have a stimulative effect on spermatogenesis. Both hyper and hypofunction of this important regulator of the body economy result in depression of their manufac-

ture. Next in importance are the thyroid, the adrenals and the pancreas. The status of these glands, in absence of obvious causes of absolute sterility, may have to be appraised.

Let us return to the local causes, with a consideration of the epididymis. This structure with its minute tortuous canals serves as the passageway for transfer of the spermatozoa from the testicular tubules to the vas deferens. Logically, therefore, the commonest contributing factors causing sterility are those of mechanical blockage of this pathway. Thirty per cent of cases of epididymitis of gonorrhea result in occlusion of the epididymis. Formerly this was one of the most frequent causes of sterility, but this complication is occurring less often since the introduction of sulfanilamide. Non-specific epididymitis results in blockage in even higher percentage than gonorrhea. Fortunately this disease is less common. In addition tuberculosis of the epididymis causes obstruction. All of these inflammatory conditions produce their havoc by the same mechanical means although the diseases per se are independent. Spermatocele, tumor and congenital absence of the epididymis are among the rarer conditions affecting fertility.

Assuming that the spermatozoa have been normally created in the testicle and have survived transportation through the rete, and the epididymis, then they must find a patent channel through the eighteen-inch-long vas deferens to reach the ejaculatory ducts. The common affections of the vas deferens as regards mechanical blockage are similar to those of the epididymis, namely, gonorrhea, tuberculosis, and non-specific infections. In addition, accidental severance of the vas deferens in varicocele operations is another rare but important cause.

Next in line comes the seminal vesicles, ejaculatory ducts, and prostate gland. There has been much controversy over these structures in considering their role in fertility. To eliminate argument and to mention the now accepted facts, the seminal vesicles have practically no deleterious effects in reducing fertility, and the ejaculatory ducts

rarely through occlusion of their exits. The prostate gland, long considered a most important organ contributing towards fertility, does not deserve this unique position. Inflammatory conditions disturb man's fecundity only in so far as they may cause increased viscosity in the fluid of the prostate gland and abnormalities in the performance of sexual intercourse. Increased viscosity results in mechanical tangling of the spermatozoa and prevents their ascent through the cervix. The bacterial products in infections of the prostate are not inimical to the life cycle of the spermatozoa. There is ample evidence to support this statement.

The urethra, divided into the anterior portion which serves merely as a transportation channel and a posterior part which combines transportation with a sexual function, is important. Diseases of the verumontanum, namely, inflammatory hypertrophy, papilloma, cysts, and circulatory congestion, have a well-known effect on man's sexual performance. These abnormalities may be blamed for ejaculatory disturbances, such as premature emission, increased sexual desire with overindulgence, difficulties in obtaining and maintaining erection, and impotency. As to the anterior urethra the commonest and most important contributing factor is urethral stricture. This causes proximal hypertrophy and dilatation of the canal, and the semen, instead of following through to the meatus, empties retrograde into the bladder. Besides urethral stricture is practically always accompanied by prostatitis, so that the increased viscosity of the prostatic fluid comes into the play. In those cases where stricture is of insufficient caliber to cause retrograde ejaculation, it may be responsible for lack of force in expelling the ejaculate, resulting in a slow dribbling of the semen from the urethral meatus.

Inflammatory conditions of the urethra have little or no inhibiting effect on the fertilizing power of the semen. Hypospadias and epispadias may interfere with proper delivery of the semen to the cervix. In the penile and perineal forms the semen is lost. The presence of a small urethral meatus

acts similarly to a urethral stricture of a mild caliber.

Thus in a general way I have covered, superficially, the common local and general contributing factors in so far as the anatomy is concerned. However, our consideration of etiologic aspects of sterility does not end here. Assuming that healthy, motile viable spermatozoa of sufficient quantity and normal quality can reach the urethral meatus unimpeded, what next?

All of the facts which surround the act of intercourse require consideration. Impotence in the male due either to neurologic, psychiatric, or constitutional causes requires investigation and accurate diagnosis. Inability to perform the sexual act because of mechanical interference of a local tumor or general physical deformity should be considered.

Frequency of sexual intercourse has a decided role in the fertility level. Those who have coitus daily exhaust the supply of spermatozoa more rapidly than they can be produced. Intercourse on an average of twice weekly provides the most ideal conditions as far as the specimen of semen is concerned. Local and general disturbances in the female commonly prevent proper delivery of the semen to the cervix. Among these are dyspareunia, mechanical faults such as obesity or large tumors of the vulva, rigidity of the hymen, stenosis of the vagina, or the encroachment of a mass on the cavity of the vagina.

Lastly we must consider disproportion between the sizes of the cervix and the penis. The ideal situation is where the urethral meatus and external cervical os are in juxtaposition at the time of ejaculation. Seldom does this obtain. Differences in sizes of the penis, vagina, and cervix may prove a hindrance to accurate deposition of the semen. Also, malposition of the cervix occasions delivery of the major portion of the semen away from the external os. Thus there are various local factors which mechanically interfere with proper delivery and reception of the ejaculate.

It is beyond the scope of this paper to consider further the various faults in the

female, entering into etiologic possibilities in failure to conceive. An attempt has been made to discuss the role played by the male. Starting with spermatogenesis, to delivery and reception of the ejaculate at the cervical os, the various interferences with fertility have been mentioned.

The examination of the semen is of utmost importance. A determination of volume, turbidity, viscosity, motility, a count of the spermatozoa, and study of the morphology provide the laboratory data which in cooperation with the findings of the history and physical examination furnish the physician with a fairly accurate appraisal of the fertility level in the male.

It is only by thorough investigation, with disclosure of the etiologic factors, that proper treatment can be directed and joy brought to those marriages that unfortunately are barren.

The following report of a case is presented as an example in diagnosis and method of handling an instance of barren marriage:

E. R., a white male, aged 36, complained of barren second marriage. First marriage at 25 was productive of two female children and was terminated by the death of the first wife. During the first marriage contraceptives were used except at the times when children were desired. Conception occurred in each instance within a month after cessation of the use of contraceptive devices. Intercoarse averaged two to three times per week. There were no venereal diseases; mumps were denied, and there had been no trauma to the scrotum or exposure to x-rays. General health had always been excellent and diet adequate. He lived a well-rounded normal type of daily existence.

Second marriage was of two and one-half years' duration. Contraceptives were used for the first two years. The couple elected to have a child, but attempts without contraceptives over a period of six months were unsuccessful. Sexually, desire for and performance of intercourse were normal and averaged about twice a week. There had been no change in life's habits. Naturally, with the background of a husband of proven fertility, having had two healthy offspring from a previous marriage, and the second wife not having been previously married or ever pregnant, the blame was assumed to lie with the woman. Accordingly, the wife was subjected to a history and physical examination, a Rubin's tubal insufflation test, a basal metabolism test, a sugar tolerance test, and uterosalpingography without revealing any abnormality. One physician advised operation "for a displaced womb."

Finally, the husband was referred for examination. Further questioning revealed that both his father and mother had diabetes mellitus, giving a hint towards

familial dysfunction of the endocrines. Physical examination showed no abnormalities in physical habitus, the distribution of hair was that of a normal male, and the physique athletic. The only positive finding consisted of a softened consistency of each testicle. These organs were of normal size and shape, but lacked the tense, firm feel usually present.

Laboratory studies revealed a pulse of 58, blood pressure of 102 systolic, 60 diastolic. The fluid expressed by digital massage of the prostate gland was normal when examined under the microscope. The urethra was free from stricture. Urine analysis revealed no abnormality. The blood Wassermann was negative. Red blood count was 5,000,000; hemoglobin 95 per cent. Basal metabolic test was minus 11 per cent on two occasions. Galactose tolerance test showed slightly increased tolerance for this sugar; that is, after the ingestion of 40 grams of galactose by mouth none of this sugar could be detected in the urine.

An analysis of the semen showed a volume of 3.0 cubic centimeters, the turbidity slightly diminished, the viscosity normal. There was only a rare sluggishly motile spermatozoa per high power field.

The history of endocrine disturbance in both parents, the repeatedly slow pulse, diminished blood pressure readings, lowered basal metabolism, and increased tolerance to sugar suggested the diagnosis of dysfunction of the anterior lobe of the pituitary gland. In the absence of other factors contributing towards his sterility the indication for glandular therapy was definite. Accordingly, he was given over a five-week period of time, 6,000 rat units of gonadotropic factor, divided in ten doses, and at the same time 10,000 rat units of Antuitrin S divided in ten doses. Seven weeks following the beginning of treatment the analysis of the semen showed a volume of 1.5 cubic centimeters (some was lost), viscosity normal, turbidity not diminished, motility 90 per cent highly active spermatozoa in one hour, 50 per cent moderately active in six hours. A count of seven million per cubic centimeter was obtained. Morphologic studies revealed 84 per cent of normal cells, 16 per cent abnormal. The wife missed her menstrual period on the eighth week following the onset of therapy in the husband and an Aschheim-Zondek test was positive for pregnancy.

The response to endocrine therapy was dramatic because the site of the disturbance was accurately localized. This case report serves to demonstrate how unjustly the woman can be blamed even to the point of causing her to suffer an operative procedure. The joy experienced by this couple in anticipation of a new baby more than justifies every effort that was made toward the diagnosis and treatment of the patient.

Conclusions

1. A large number of etiologic factors, both anatomic and functional, contribute to sterility in the male.

2. Constitutional disturbances as well as local conditions must be taken into account in the diagnosis and the treatment.

3. A case is reported in whom accurate diagnosis of a constitutional disturbance paved the way for successful treatment.

William-Oliver Building.

REFERENCES

1. D. Macomber: Statistical Study one thousand cases of Sterility, *Am. J. Obst. and Gynec.* V 17: (May) 1929.
2. Williams and Savage: Spermatic Abnormalities, *N. Eng. J. of Med.* V 17: p. 946-951, 1937.
3. Moench, G. L.: Sperm Morphology and Microdissection, *Am. J. Obst. and Gynec.* V. 35: p. 410-413 (March) 1933; Technique of Study of Cytology, *Am. J. Obst. and Gynec.* V 19: p. 530-538 (April) 1930; Sperm Morphology, *Am. J. Obst. and Gynec.* V 22: p. 199-210 (Aug.) 1931.
4. Meaker, S. R.: Human Sterility, Williams and Wilkins Company, 1934.
5. Young, W. C.: The influence of high temperature on the Guinea Pig Testis, *Journ. Exp. Zoology* V 49 (Nov.) 1927.
6. Huehner, M.: Gonococcus in Sterility *Bull. N. Y. Acad. Med.*, V 4, 1928.
7. Belding, David: Fertility in the Male, *Am. J. Obst. and Gynec.* V 27 p. 25-31 (Jan.) 1934.
8. Huehner, M.: Sterility in the Male and Female and its Treatment, Rebman Company, 1913.

FOUNDING OF THE SOUTHERN MEDICAL COLLEGE*

Events Preceding Its Organization

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Events leading up to the founding of the Southern Medical College.

In the year 1857 a young man whose skill as a physician and distinguished reputation as a lecturer and writer known throughout the country, was invited to deliver the annual address to the graduating class of the Atlanta Medical College. His subject, "The Moral Duties of the Physician," was most favorably received, and so profoundly impressed the faculty and trustees of the college that he was subsequently elected to fill the chair of Obstetrics and Diseases of Women and Children.

So to Atlanta came Dr. Thomas Spencer Powell, first honor graduate of the University of Pennsylvania, Medical Department, of the class of 1846, whose recently published medical work known as "Pocket Formulary and Physicians' Manual" had been acclaimed by the journals of the day and highly appreciated by members of his profession throughout the country.

Before giving an account of Dr. Powell's

activities in the growing city of Atlanta, it seems proper to briefly mention some facts concerning his life.

He was born Oct. 27, 1824, in Brunswick County, Virginia.

The college education of Dr. Powell was begun at Oakland Academy and completed with honor at Lawrenceville Male Institute, then in charge of the celebrated Professor Brown of William and Mary College. In early childhood he manifested such a strong predisposition for the practice of the healing art that his father wisely decided that medicine should be his profession. During his collegiate course his father placed him under the care of Dr. Benjamin Hicks, who had attained high rank in his profession.

After two years of preparatory reading and training he attended two full courses of lectures at the Medical Department of the University of Pennsylvania, graduating in 1846 and locating in Sparta, Ga., where he began the practice of his profession the same year.

Prompt in responding to calls; kind, charitable and courteous to all; eminently successful in the treatment of his patients, he soon commanded an extensive and lucrative practice.

In 1847, he married Julia Bass, daughter of Larkin Bass, M.D., D.D., and Mary Rabun Bass, granddaughter of Governor William Rabun of Georgia. Some years after the death of his first wife, he married Mrs. Jennie Miller, of Virginia, a descendant of a renowned Scotch family—Rosebrugh—from whom the town of Roxborough, Scotland, derived its name.

Dr. Powell was one of those rare men who inspired confidence in all with whom he became associated, noble in heart, industrious, devoted to truth and morality, he was constantly engaged in conceiving and executing plans for the general welfare.

Dr. Powell came to Atlanta in January, 1858, and at once entered upon his duties as a member of the faculty of the Atlanta Medical College. His great heart was in his work and his desire was to build up to the utmost the college with which he was connected.

Dr. Powell was a good teacher who at

*The author of this article, Mr. Gregory Murphy, long-time citizen of Atlanta, and publisher, has been interested in various historic facts of Georgia. At the present time he is working on other medical material, and will no doubt add to the facts here presented.



THOMAS SPENCER POWELL, M.D.
1824-1895

all times showed the most intense interest for the welfare of his boys. He insisted on a high standard and his fatherly advice on matters moral and ethical proved of inestimable value to his students, none of whom ever failed to pass the state examination. Better and higher standards of education was his constant desire.

Dr. J. G. Westmoreland, president of the Atlanta Medical College, became a member of the Legislature in 1857 primarily to obtain an appropriation for the college, similar to the one given the Augusta Medical College, wherein one young man from each congressional district is given free tuition. His services proved ineffectual in securing the appropriation, so in 1858 Dr. Powell, with other influential men, among them the Hon. Mr. Underwood, Speaker of the House of Representatives, succeeded in getting an appropriation of \$15,000 for the Atlanta Medical College. However, in 1858 Dr. Westmoreland did succeed in passing a bill to adopt an amendment to the original charter of the Atlanta Medical College giving complete powers to the faculty over the trustees, which was branded "the obnoxious amendment" by the American Medical Association and was the beginning of the long and bitter feud between the Board of Trustees and the Faculty of the Atlanta Medical College. Dr. Powell, knowing this

amendment would seriously disturb the harmony which should exist between the trustees and faculty and to effect the prosperity of the college because it was wrong in principle and wrong in policy, told Dr. Westmoreland he would never recognize it, or be controlled by it.

At the next regular meeting of the Board of Trustees, after the War, in 1866, they rejected the amendment. A few months previously, Dr. Powell had succeeded in getting an appropriation of \$5,000 from the city to make some necessary repairs to the college. The Atlanta City Council had pledged Dr. Powell to see that the appropriation was properly expended and to make a report. But after he had turned the money over to the college it was used in a way unsatisfactory to Dr. Powell, who thought it should be reported to the trustees. City Council requested Dr. Powell to make a report, but Dr. Powell said that the books of the Dean (Dr. J. G. Westmoreland) showed the expenditures in a manner not satisfactory to him, and that he could not make a satisfactory report and asked that a committee from the City Council be appointed to investigate and report thereon. The committee found that the improvements should have cost approximately \$1,500 instead of the \$4,250 reported to have been spent.

Dr. Powell's persistent efforts for higher standards of education and his insistence for better business methods in the management of the Atlanta Medical College aroused the ire of the "Brothers Westmoreland" and they began to plan his removal.

So, at the faculty meeting in August, 1866, passed a resolution as follows:

Resolved, that the course pursued by Prof. Powell, in the prosecution of the enterprise he calls the Ladies' Home meets with the positive disapprobation of his colleagues in the faculty of the Atlanta Medical College.

On motion of Dr. J. G. Westmoreland, the following was passed:

Resolved, That we cannot, as a faculty, hold any further connection with Dr. Powell, and that Dr. H. V. M. Miller, of Rome, is hereby considered a proper selection, and that we fill the Chair of Obstetrics, as we have always done, by the appointment of Dr. Miller.

Two faculty members declined to vote.

The Board of Trustees refused to agree to this treatment of Dr. Powell and stated to

the faculty that if they could not settle their differences, they would request the faculty to resign. The faculty replied, that in accordance with their privileges and duties assigned them by the amendment (the "obnoxious amendment") to their charter, they felt constrained most respectfully, to decline the recognition of the conclusions reached by the Board of Trustees.

The Medical Association of Georgia took the controversy in hand and passed its sentence against the faculty and College, declaring the acts unprofessional and the institution irregular. The faculty, not content with opposing the Board of Trustees and graduating students independently of its authority, publicly assailed the motives and acts of the Medical Association meeting held in Augusta, in a "memorial" addressed to the Legislature. The language of the paper was of such a character as to cause the Medical Association of Georgia to demand its retraction. This the faculty (at this time it was called "The Westmoreland Private School" by certain members of the medical profession) it seems, did not do to the satisfaction of that body, and they were accordingly expelled at the convention of the Medical Association of Georgia in Macon, 1870.

During these times getting and keeping a faculty was quite an undertaking as there were continual resignations and replacements in the faculty of the Atlanta Medical College. In the *Daily New Era*, a daily paper in Atlanta in 1866 appeared an advertisement for thirty days announcing that the Chairs of the faculty are all vacant by resignation and asking for applications from doctors to fill the vacancies.

Before the Legislature met in 1869, however, in Atlanta, the faculty realized that the amendment would have to be repealed or their college would not be recognized by the state or national association. They, therefore, reversed their stand and advocated the repeal of the amendment which took place in 1869, giving the power back into the hands of the Board of Trustees. (See *Atlanta Constitution* of Feb. 21, 1869, at Carnegie Library, Atlanta).

In 1870, at the Medical Association of

Georgia meeting in Macon, the faculty of the college headed by the Westmoreland brothers were expelled from the Association for their refusal to apologize for the charges made in their "Memorial." In the meeting of 1871 at Americus, which was declared unconstitutional by fourteen of the doctors present, a resolution was passed that the action taken at Macon be rescinded and expunged from the records.

In July, 1871, 114 prominent Georgia physicians called a convention in Macon to remedy this intolerable situation and an adjourned meeting was held to be continued the day after the next Georgia State Medical Association, in 1872.

However, in 1872, the faculty of the Atlanta Medical College made the apology requested through the daily papers and two medical journals as specified by the State Association. Their apology signed by Dr. Joseph P. Logan declared that "We do recognize the meeting of the State of Georgia Medical Association in Augusta, 1868, as a regular meeting and do not ask that the records of any of its transactions be mutilated."

Before this action was taken the Atlanta Medical College attempted to compromise the issue by offering to drop the charges against Dr. Powell and make him Professor Emeritus of the College, which he refused. A committee of the Fulton County Medical Society was appointed to investigate the situation and made the following statement:

"The statement of facts contained in the defense of Dr. Thomas S. Powell is a complete and triumphant vindication of his conduct and character and he stands acquitted of these charges, before the public, as well as the profession."

The brilliant and successful career of Dr. Powell, which continued through and beyond the period of the controversy until his death, is assurance enough of the high esteem in which he was held by his fellow doctors over the country. He was honored by being appointed a delegate from the Medical Association of Georgia to the American Medical Association annual meetings more than any other Georgia doctor. He was on the Atlanta Board of Education from 1872 until 1889. He served for many

years on the Atlanta Board of Health. In 1876, when Savannah had its tragic epidemic of yellow fever, Dr. Powell answered the call and remained there until his services were no longer required. It was here that Dr. Richard D. Arnold, close friend of Dr. Powell and one of the founders of the American Medical Association, died of yellow fever.

The Southern Medical College was founded by Dr. Powell in 1878. In connection with the medical college he also founded the Southern Dental College, now known as the Atlanta-Southern Dental College. In connection with the medical college he established a hospital known as the Ivy Street Hospital and thus came into existence the first hospital for emergency cases in Atlanta. This Ivy Street Hospital served the city until 1892 when Grady Hospital was built. It was also in 1892 that Dr. Powell built the new Southern Medical College with a separate building for the dental department.

In a booklet entitled "The Southern Medical College, Its Aims and Objects," we give the following excerpt from the preface by Dr. Wm. Perrin Nicolson, Dean:

"We are determined, not only to provide everything essential to a first-class medical institution, but to conduct the school upon honorable and ethical principles. No undue influence will be used, and no dishonorable or unprofessional methods resorted to, to procure matriculates. The highest principles of morality, honor and professional integrity will be inculcated, and the students will be faithfully and efficiently instructed in every department of medical science."

After the death of Dr. Powell on Dec. 30, 1895, the Southern Medical College was merged with the Atlanta Medical College and they are now the medical department of Emory University.

It seems fitting and proper to end this short history with a few remarks about Dr. Powell, by Lucian Lamar Knight, M.A., LL.D.—State Historian:

... "He was a doctor of the old school; and his life attuned to gentleness was like a healing stream from the old Bethesda. I can pronounce no higher eulogy upon him than to say: he was a true physician, as true as ever paced the sick room or felt, in the sufferer's pallid wrist, for the beating pulse of life. It was not less true of him than of the noble Roman that—

"His life was gentle and the elements

So mixed in him that nature might stand up

And say to all the world: this was a man."

REFERENCES

Personal research in every source listed below establishes the authenticity of the statements made in this history:

1. The Carnegie Library, Atlanta, Ga.
2. The daily press and medical journals of those years.
3. The A. W. Calhoun Medical Library, Emory University, Ga.
4. The DeRenne Section, University of Georgia Library, Athens, Ga.
5. The Library of the American Medical Association, Chicago, Ill.
6. The United States Army Medical Library, Washington, D. C.
7. The University of Pennsylvania Medical Library, Philadelphia, Pa.

GONOCOCCEMIA: PATIENT UNSUCCESSFULLY TREATED WITH SULFANILAMIDE

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The outcome of gonococcic bacteremia without endocarditis is hopeful; many types of treatment have been reported as successful. With endocarditis the prospect is usually considered hopeless. At the time our patient was treated we found no reports in American literature of the use of sulfanilamide in gonococcic bacteremia with endocarditis.

The points of interest in four patients with gonococcemia who recovered spontaneously¹ serve to typify the group. Arthritis is usually, but not always, present at the onset of the bacteremia. Sometimes the primary infection is already healed and no organisms can be found in the genital tract. The patients are usually more ill than local symptoms warrant, and exhibit high septic temperature with chills. Of especial significance are skin lesions, usually macules or papules on the extremities, trunk and neck. There may be hemorrhagic bullae or vesicles which do not contain organisms.

The blood culture is most apt to be positive just after a chill or fever of more than 104 degrees F.

Endocarditis may be accompanied by petechiae with white center, different from the macules of uncomplicated gonococcemia. Emboli to lungs, spleen, and extremities may occur with endocardial involvement. A diastolic heart murmur is diagnostic of endocarditis. There may be alteration of other types of murmurs, but a

persistent diastolic murmur is most significant.

Report of a Case of Gonorrheal Septicemia

A young housewife of nineteen was admitted to the Georgia Sanatorium July 16, 1939. She was an orphan; her past history was negative. She walked into the office breathing very heavily, and the cardiac impulse could be seen over the entire chest. She stated that she sat at the table for dinner, and then came fifty miles to the office, in an automobile.

For the past month she had been wondering why her heart was beating so hard, and she had consulted a number of local doctors, none of whom seemed to be able to help her. About five months previously she had received successful local treatment for leukorrhea. About three weeks after her marriage in May, the leukorrhea returned, and shortly after that painful swelling appeared in both ankles. The swelling in the ankles improved in about two weeks, and then there followed an inflammation of the first interphalangeal joint of the left third finger. From this time on she noticed a rapid loss of weight and increasing fatigue.

Physical examination showed a pale, emaciated woman who appeared to be very tired. Marked carotid pulsations were noticeable. The chest wall seemed to vibrate with each systole. There was a marked systolic murmur at the apex, but no palpable thrill. No edema of the extremities was noted. Temperature was 104.2 F., pulse 158, respiration 38, blood pressure 115/66, hemoglobin 50 per cent; white cell count 7,850. A vaginal smear showed trichomonas but no gonococci were found. Urine examination was negative.

Upon questioning the husband it was learned that he had a gonorrheal infection six months prior to his marriage, contracted from another woman. The only treatment taken was that of some medicine which his uncle had obtained for him at a drug store.

A provisional diagnosis of gonorrheal septicemia was made. A blood specimen for culture was withdrawn, and treatment with intramuscular injections of neoprontosil was begun immediately. Twenty cubic centimeters of 5 per cent solution were given the first day, and ten cubic centimeters on the second day. Sixty grains of sulfanilamide were given by mouth daily from the third day through the sixth day.

On the fourth day the white cell count was 17,450, showing 87 per cent polymorphonuclear neutrophils, and 13 per cent small lymphocytes.

The temperature readings varied between 99 and 105.6 F., usually having several oscillations every twenty-four hours. The hemoglobin lowered rapidly, and on the sixth day transfusion of 150 cc. was given, on the next day 500 cc., and on the ninth day 450 cc. Liver extract was administered orally, and temperature was partly controlled by cold sponges.

A blood specimen withdrawn on July 24 was cultured in the laboratory of the State Board of Health, yielding a pure culture of gonococci.

By the seventh day murmurs, both systolic and diastolic, could be heard over each cardiac valve area. On the twelfth day, she was transferred to a hospital

in her home town where she suddenly died on Sept. 9, 1939, fifty-five days after first receiving sulfanilamide.

DISCUSSION

It was proved by the blood culture that this was a case of gonococcemia. The changing character of the heart murmurs with the appearance of a persistent diastolic murmur strongly suggests endocarditis of gonococcic origin. It is unfortunate that the degree of anemia which developed during the use of sulfanilamide prevented the more extensive and intensive use of the remedy. She was removed from our care before the last month of her illness, but the manner of her death strongly suggests an embolus.

The case is reported because of the somewhat rare condition, and because the use of sulfanilamide was of interest even though unsuccessful. Long² stated in 1939 that he had given two patients with gonococcic endocarditis prolonged treatment with sulfanilamide. One patient succumbed to a complicating nephritis, but one survived. In the more recent literature³ there are reports of patients with endocarditis treated with sulfapyridine which seems to offer more hope than sulfanilamide.

REFERENCES

1. Friedberg, Chas. K.: *Am. Jour. Med. Sciences* 188:271, 1934.
2. Long and Bliss: *Clinical Use of Sulfanilamide and Allied Compounds*: MacMillan Co. 1939.
3. Orgain, E. S. and Poston, M. A.: *Endocarditis with Recovery After Sulfapyridine*; *Case. New England J. Med.* 221:167-169, (Aug. 3) 1939.

GALLBLADDER IN HEART DISEASE

Disease of the gallbladder is definitely associated with disease of the arteries of the muscles of the heart and contributes to death from the latter ailment, Herbert S. Breyfogle, M.D., Kansas City, Mo., reports in *The Journal of the American Medical Association* for April 13.

Its coexistence and the part it plays in causing death of patients with the heart disease was determined by the Missouri physician by analyzing 1,493 consecutive autopsy records. In these records he found 162 cases in which the primary cause of death was considered to be the heart disease, but on further study seventy-nine of these cases were found to have associated gallbladder disease (gallstones and other disorders of this organ).

In the 1,493 autopsy records gallbladder disease was mentioned in 363 cases, including the seventy-nine with the heart disease. Gallbladder disease was associated with the heart disease in 42.4 per cent of the 162 cases and the heart ailment was present in about 20 per cent of the 363 cases of disease of the gallbladder.

THE PRESIDENT'S DEPARTMENT

THE NINETY-FIRST ANNUAL SESSION

Under the able leadership of Dr. William H. Myers, of Savannah, the Medical Association of Georgia has just completed one of its most successful years, culminating in the Ninety-First Annual Session at Savannah.

The Savannah Session will long be remembered for its well-balanced program, which included interesting and instructive scientific presentations; and scientific exhibits which were an education within themselves and just about as good as those at the A.M.A., only, of course, on a smaller scale.

The social entertainments, for which Savannah is universally famous, were exceptionally enjoyable this year, and the sight-seeing in that old city, the birthplace of Georgia, was worth the time of anyone.

To combine all of these features into one program was indeed a work of art and the Committee on Scientific Work of the Association and the Committee on Arrangements of the Georgia Medical Society are to be congratulated for doing such an excellent job.

Our distinguished guests—Dr. Morris Fishbein, of Chicago; Dr. Frank H. Lahey, of Boston; Dr. Kenneth M. Lynch, of Charleston, S. C.; Dr. Lloyd Noland, of Birmingham, Ala., and Dr. Rollin T. Woodruff, of Chicago—each brought us a message that I wish everyone of our members could have heard. As someone said of Dr. Woodruff's lecture, these great teachers can present their subjects in such simple manner that even the wayfaring man can understand them. It was truly a treat to hear them.

Besides numerous interesting and instructive individual scientific papers and case reports in our scientific section, there were two symposiums which showed from the large attendance they drew that they attracted a great deal of attention.

The symposium on "The Problems of Medical Care in Georgia for 1940" was a timely one and showed that the participants had given considerable thought to these matters. Dr. J. E. Paullin's recommenda-

tion toward having a conference of all of the interested groups in the State to study and devise means of dealing with medical care was endorsed by the House of Delegates, and such a conference will probably be called in the near future. It is to be hoped that some concrete plan may be formulated.

Our symposium on "Georgia's Obstetric Problems of 1940" was especially interesting in that its participants were not only prominent in Georgia medicine, but they are also nationally well-known for their work. It is a source of pride to Georgia doctors traveling over the country to know with what high regard our departments of obstetrics in both medical schools are held. Their research work is internationally known and praised.

The reports of committees before the House of Delegates were on the whole well thought out and showed that the members of these committees had given a great deal of study to their various problems.

My own report before the House of Delegates was received very kindly. It is more or less a program that I hope we may be able to carry through during this year. While some of the plans may be rather ambitious, I believe we can promote them and that they will prove beneficial.

The first of these proposed the reduction of the Maternal Mortality Committee to only five members who are especially interested in this work. This will mean a more enthusiastic and more flexible committee, and was heartily endorsed by all persons consulted.

The second, the appointment of a committee to study and inaugurate an educational campaign to lower the mortality rate of appendicitis, was approved by the House and I feel sure that under the leadership of Dr. T. C. Davison, of Atlanta, the committee will work to reduce our appendicitis mortality from its present high of 11.6 to 15.3 per cent to the neighborhood of that of Pennsylvania, 2.6 per cent. This will require the active support of all members and a most intense campaign of publicity to educate the public of the dangers of

delay in seeking a physician, and the pernicious use of purgatives when abdominal pain is the chief complaint.

Both Dr. Myers, in his report, and I stressed the importance of making postgraduate study available to the physicians over the State, and suggested doing this through the District Medical Societies turning over every other meeting to the Postgraduate Committee to put on the program in collaboration with the District Secretary. It was also suggested that a good plan would be for the Postgraduate Committee to compile a list of physicians and professors having something to teach, and their respective subjects, and that this information be filed and made accessible to the secretaries of county and district societies.

This was referred back to the committee, but it is my belief that some such plan for postgraduate study will come about. It seems to me that the success of joint meetings was proved in the two successful meetings last year of the Southeastern Surgical Congress with two district societies.

My fourth recommendation was a suggestion for a plan to remedy the lack of physicians in rural districts, which plan I shall restate here:

The State probably owes everyone a grammar school education and possibly a high school education, but it would seem only fair, if one were given a professional education, that he feel some sense of social responsibility and that he should have to give something in return.

Would it not be fair and feasible for the State to require the graduates or a certain percentage of the graduates of the University of Georgia School of Medicine to practice for a certain length of time, probably two years, in one of these rural localities? It might be better for them to serve one year's internship before going out to practice. A list of localities needing physicians could be filed with the Dean and he might allot a location according to the student's rating in his class. It is suggested that the State or the locality to which he goes supply him with an adequate office, a laboratory, and a car, and guarantee him a certain salary to supplement what he does not get in fees. In this way he would be under the supervision of the school or would be sponsored by some nearby physician. At the end of his service he could elect to remain in his assigned locality to practice, if he wished to do so, or he might go back and become an assistant resident in the University Hospital.

It was recommended that such a committee be appointed, and from this I hope that real progress may



be made toward solving the problem. "Our Medical Care in the Rural Districts."

My fifth proposal, that of securing a retirement annuity for doctors who are worn-out in practice so that they may be able to retire on reaching 65 years of age and not be dependent on charity, through the addition of an amendment to the Small Business Man's Amendment to the Social Security Act, was referred to the Committee on Public Policy and Legislation, where it is hoped they will immediately contact the proper representatives looking toward its enactment.

The suggestion that in the near future we have a conference of all county and district presidents and secretaries, and chairmen of committees, in order that we may better plan for the efficient operation of our Association was approved by the House of Delegates.

I am sure that it is very gratifying to our members to know that our most efficient Secretary, Dr. Edgar Shanks, of Atlanta, will continue in his great work, as the affairs of the Association, financially and otherwise, show the hand of a financial and editorial genius.

I would like to close this message by quoting a statement given by Dr. John LeConte, of Savannah, in 1845. "The experiences of late years have abundantly shown that the dignity and responsibility of the profession is to be promoted not so much by legislative enactment as by increase of individual zeal and more cordial cooperation." This is just as apropos now as it was ninety-five years ago.

J. C. PATTERSON, M.D.

THE JOURNALOF THE
MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

MAY, 1940

OFFICERS, 1940-41

Dr. J. C. Patterson, of Cuthbert, was installed as President of the Association at the Savannah Session. Dr. Allen H. Bunce, of Atlanta, was elected President-Elect; Dr. Julian K. Quattlebaum, of Savannah, was elected First Vice-President; Dr. Marion T. Benson, Jr., of Atlanta, was elected Second Vice-President, and Dr. Edgar D. Shanks, of Atlanta, was re-elected Secretary-Treasurer.

Councilors elected, all nominated by their respective district societies, were Dr. W. A. Selman, of Atlanta; Dr. H. Dawson Allen, of Milledgeville; Dr. Zeb V. Johnston, of Calhoun, and Dr. B. G. Owens, of Valdosta. Vice-Councilors named are Dr. Marion C. Pruitt, of Atlanta; Dr. H. G. Weaver, of Macon; Dr. D. Lloyd Wood, of Dalton, and Dr. W. F. Reavis, of Waycross.

Drs. Wm. H. Myers, of Savannah, and C. W. Roberts, of Atlanta, were re-elected delegates to the American Medical Association.

AWARDS

Scientific and technical exhibits at the Ninety-First Annual Session of the Association filled every available space in the hotel. Each reflected the careful thought of some person, or group of persons, and all were educational in every respect.

The Committee on Awards to judge the scientific exhibit awarded certificates of merit to the following individuals:

First Award—Dr. H. F. Sharpley, Jr., of Savannah, chairman of the Committee on Maternal Mortality and Infant Deaths. Exhibit "Mortality of Puerperal Infections."

Second Award—Dr. M. E. Winchester, of Brunswick, chairman of the Glynn County Board of Health. Exhibit "Control Measures to Prevent the Spread of Syphilis."

Third Award—Dr. Robt. B. Greenblatt, of Augusta. Exhibit "Hormonal Stimulation of the Human Ovary."

Drs. Howard and Hugh Hailey, of Atlanta, won the Hardman Loving Cup award for their work on "Familial Benign Chronic Pemphigus."

SAVANNAH SESSION, 1940

The Savannah Session of 1940 was an inspiration to each physician who was privileged to attend it. He found there five hundred sixty-seven of his colleagues, one hundred ninety-one of whom had brought their wives. There were business sessions of the House of Delegates and of the Council, and the scientific program had been planned for full days; but each member and his wife found some time to visit with friends, to renew old acquaintances and to make new friends. Surely one could not go away from hospitable Savannah without feeling he had accomplished something, and that Georgia medicine was making progress.

GOUT

Gout is not a disease which can be relegated to the past and in recent years discussion of it has occupied an increasing amount of space in medical journals. Repeatedly Hench has stressed the importance of looking for and diagnosing gout in some of the many patients who complain of rheumatism. He has suggested that by the taking of a careful history gout may be suspected and often differentiated from other arthritis. Although an absolute diagnosis of gout rests on the findings of tophi, these uric acid deposits are not usually present until after the first ten years of the disease. For this reason cases of gout diagnosed during the early period may be classed as "pre-tophaceous" or "presumptive gout." Hench believes that probably 50 per cent of gout should belong to this group and Jacobson in a study of blood uric acid, classified 12 of his 21 cases as "presumptive." Such a diagnosis may be made with considerable certainty by a careful history and studies of the uric acid content of the blood. The history of gout is one of an acute recurring arthritis in

which there are no residual joint changes between attacks. The attacks are often precipitated by trauma and dietary indiscretions; an attack is not unusual after a holiday or a "big week-end fishing trip." Acute arthritis developing during the convalescence from an operation suggests gout.

In untreated cases of gout the blood uric acid is usually elevated regardless of the stage of the disease. If the uric acid determination is carried out on whole blood the figures are less than those on the blood serum. A blood uric acid above 4 or 5 mg. may suggest gout but an elevated uric acid content of the blood does not always mean gout and a history of recurring acute arthritis must be present for a positive diagnosis to be made.

Although gout usually occurs in the middle age group and is present usually in men, a case observed during the past year is an exception. The patient was a 17 year old girl who had suffered for three years with an intermittent acute arthritis of the right knee. Treatment had consisted of rest, heat, and on one occasion a plaster cast on the knee for one month but the attacks would still recur. At no time had x-ray changes been found in the bones or knee joint. On examination the knee was exquisitely tender and there was moderate swelling and redness. Nothing was found on examination or laboratory studies to suggest the presence of infection. The sedimentation rate was normal. However, the uric acid content of the whole blood was 7 mg. on one occasion and on another 7.5. After the patient followed a low purine diet for two weeks and took twelve grams of cincophen in two courses, the blood uric acid dropped to 3.1 mg. For twelve months she has followed a diet of purine restriction and has remained symptom free and the uric acid content of the blood has varied from 2.8 to 4.3.

For the diagnosis of gout to be made more frequently we must be "gout conscious" and obtain a careful history of the attacks. And to make our diagnosis more certain we must be guided by criteria which include the history, increased uric acid in the blood and in later gout, tophi.

T. STERLING CLAIBORNE, M.D.



ALLEN HAMILTON BUNCE, M.D.
President-Elect, 1940-41

ALLEN HAMILTON BUNCE, M.D.

It was fitting that the members of the Medical Association of Georgia should have as President-Elect a man who has worked enthusiastically many years for organized medicine and one may be sure that they were glad to do so for they knew that no man could call so many Georgia doctors friend as the man they so honored. Allen H. Bunce.

Born in old Bulloch County Georgia, Bunce received his A.B., together with a Phi Beta Kappa key, at the University of Georgia at 18. With three semesters at the University of Chicago, where he also made Phi Beta Kappa grades, he was awarded his M.D. at the Atlanta School of Medicine (which later was adopted by Emory University as its School of Medicine) in 1911. A year later, with the late Dr. Edward G. Jones, of Atlanta, as co-author, he wrote a textbook of physiology, which was published by Blakiston and ran through several editions. This led to his being admitted to "Who's Who in America" only a year

after graduation! Soon after this he opened a laboratory of clinical pathology in Atlanta and joined the Faculty of the Emory University School of Medicine where he has served ever since except for the military interlude. Since then he has brought the number of his scientific publications to approximately 150.

During the World War Dr. Bunce served as chief of laboratory of Base Hospital 43, the Emory Unit, with the rank of captain. While serving at Camp Jackson he discovered that in epidemic meningitis the meningococcus could be obtained from the blood stream in 38 per cent of cases. While it is true that the meningococcus had been cultured from the blood in isolated instances before this, when this work was published with clinical observations by a number of his associates it attracted wide attention. Returning from France Dr. Bunce again opened a laboratory of clinical pathology, but gradually his interests led him more and more into the practice of internal medicine, and for a number of years now he has limited his work to this field. In passing, Dr. Bunce became a Fellow of the American College of Physicians in 1920, the first initiate from Georgia.

Dr. Bunce was elected alternate delegate to the Convention of the American Medical Association in 1915. He was for the first time elected a delegate in 1918, but he was unable to attend that session on account of his military duties. He was re-elected in 1924 and continued as a delegate till 1929, serving as Vice-Speaker of the House of Delegates in 1927, 1928 and 1929. In 1929 he was elected Trustee of the Association for a term of five years, and then re-elected for a second: the American Medical Association permits no third term.

In 1920 Dr. Bunce was elected Secretary-Treasurer of the Medical Association of Georgia, a job which carries with it the responsibility of editing and publishing the Journal of the Association. It would be difficult to exaggerate the success of his efforts in both roles. The war and its sequelae had left the Association largely disorganized and the Journal a thin, inexpensively printed publication. When he

turned over the office five years ago to the present incumbent, the Association was a virile thriving organization and the Journal could hold its own with that of any state.

In 1916 Dr. Bunce and Miss Angelina de la Riviere were married. Mrs. Bunce contributed in no small measure to his success, especially in aiding him with his library and editorial work. Mrs. Bunce passed away last year.

Especially in view of his long experience with the problems confronting the profession all over the nation, the Medical Association of Georgia relies with confidence during the uncertain days that lie ahead of us upon the wisdom and energetic leadership of Allen Hamilton Bunce.

WHAT IS A PSYCHIATRIST?

Up to the end of the nineteenth century practically all of psychiatric concern was with the so-called "insane." These insane individuals were housed in "asylums" with a physician in charge in an administrative capacity, known as a psychiatrist. The whole field was a welter of confusion.

The effort to bring order out of chaos led to the need of better trained men. As study progressed many facts presented which had nothing to do with insanity. Consequently psychiatry became concerned, in addition, with the neurotic, behavior problems in children, domestic maladjustments, the criminal, and problems in social structure.

Out of the fact that psychiatry started in "insane asylums," the average physician in general medicine has gained the idea that the psychiatrist is one who is concerned entirely with the "insane." Consequently it was thought wise to define the functions of this branch of medicine. As a matter of fact not more than fifty per cent of psychiatric practice is concerned with the "insane." The rest is concerned with other problems involving the "person as a whole" and the environment in which these persons live. Consequently there are consulting psychiatrists to the criminal courts; to the domestic relations courts; to the social agencies; and to the schools. The functions of psychiatry take in all these aspects of human behavior.

In addition there are now fundamental requirements for rating as a psychiatrist (or neurologist) as follows:

Class I—Physicians who were graduated from medical schools in 1919 or before, and who have carried on a specialized practice in neurology and/or psychiatry for at least fifteen years are considered for certification on their professional record and passed, if satisfactory to the Board. However, further evidence of qualification or even examination may be required.

Class II—Physicians who were graduated from medical schools up to and including 1929 and who have practiced the specialty of psychiatry and/or neurology for at least five years are required to pass a general examination in psychiatry or neurology, or both.

Class III—Physicians who were graduated after 1929, up to and including 1934, are required to pass an examination to satisfy the Board that they have adequate knowledge of all subjects specified in the By-Laws for candidates graduating after 1934. Their previous training and experience must be acceptable to the Board.

Class IV—Candidates graduated from medical schools after 1934 must fulfill the preceding general requirements for applicants as outlined above and certain special requirements, as follows:

(1) Graduation from a medical school approved by the Council on Medical Education and Hospitals of the American Medical Association.

(2) Completion of a general internship of not less than one year in a hospital approved by the same council.

(3) A total experience, after the general internship, of not less than five years, at least three years of which must be devoted to special training, including intensive training in neuro-anatomy, neurophysiology, neuropathology, clinical psychiatry, clinical neurology, psychobiology, psychopathology and other basic medical sciences, which in the opinion of this Board are necessary to the proper understanding and treatment of psychiatric and or neurologic disorders. At least eighteen months must be spent in active work in hospitals, clinics, dispensaries, and diagnostic laboratories recognized by the Council on Medical Education and Hospitals of the American Medical Association and approved by the American Board of Psychiatry and Neurology to provide an adequate preparation in psychiatry and/or neurology. An additional period of not less than two years of practice in psychiatry and/or neurology is also requisite.

(4) Candidates wishing to be admitted to the examination for certification in both fields must have had a minimum of six years' experience in both fields.

The certification of a candidate in either psy-

chiatry or neurology, or both, must be approved by a majority of the members of the entire Board at any meeting held for such certification. It is specified by the Board that the "examinations are designed to test the ability of the candidates to meet the situations in which they might at any time be called upon as specialist to assume responsibility. They will be of such type that no adequately trained individual will fail, yet they will be sufficiently searching so that the specialist-in-fact will be separated from the specialist-in-name." Each candidate becomes through pledge bound by the By-Laws of the Board. The By-Laws provide for the revocation of certificate for specified cause.

Hence we can see how broad the scope of this branch of medicine is and what effort is being made to bring men of excellent training into this specialty.

W. W. YOUNG, M.D.

OFFICIAL CALL

To the Officers, Fellows and Members of the American Medical Association:

The ninety-first annual session of the American Medical Association will be held in New York, New York, from Monday, June the tenth to Friday, June the fourteenth, nineteen hundred and forty.

The House of Delegates will convene on Monday, June the tenth.

The Scientific Assembly of the Association will open with the General Meeting held on Tuesday, June the eleventh at 8 P.M.

The various sections of the Scientific Assembly will meet Wednesday, June the twelfth, at 9 A.M. and at 2 P.M. and subsequently according to their respective programs.

Attest:	ROCK SLEYSER, <i>President</i>
OLIN WEST, <i>Secretary</i>	H. H. SHOULDERS
Chicago, Ill., March 25	<i>Speaker, House of Delegates.</i>

HOUSE OF DELEGATES

The House of Delegates will convene at 10:00 a. m. on Monday, June 10, 1940, in the Basildon and Jade Rooms of The Waldorf-Astoria, Park Avenue and Fiftieth Street.

REPRESENTATION

The appointment of delegates made at the Atlantic City Session of 1937 entitles your State Association to three delegates for 1938-39-40.

"A member of the House of Delegates must have been a member of the American Medical Association and a Fellow of the Scientific Assembly for at least

two years next preceding the session of the House of Delegates at which he is to serve.

"Delegates and alternates from constituent associations shall be elected for two years. Constituent associations entitled to more than one representative shall elect them so that one half, as near as may be, shall be elected each year. Delegates and alternates elected by the sections, or delegates appointed from the United States Army, United States Navy and United States Public Health Service shall hold office for two years."—*Chap. I, Secs. 1 and 2, By-Laws.*

RULES FOR THE GUIDANCE OF THE COMMITTEE ON CREDENTIALS

*Adopted by the House of Delegates at Atlantic City,
N. J., June 6, 1912*

1. Credentials shall be of two parts. The first part shall be sent to the office of the Secretary of the American Medical Association by the secretary of the constituent association, not later than seven days prior to the first day of the first meeting of the House of Delegates, and shall be a list of delegates and alternates for that association. The constituent associations shall designate an alternate for each delegate, who may take the pledge of the delegate when authorized to do so by said delegate in writing. In the absence of such authority, any alternate who has been duly chosen by the constituent association may be seated in place of any delegate who is unable to attend, provided he presents proper official authority from said association. A certificate signed by the president or secretary of the constituent association shall be deemed legal authority (*as amended June 7, 1921*).

2. Each delegate shall be furnished with a credential by the secretary of the association by which he is elected on a prescribed form furnished by the Secretary of the American Medical Association, which shall give the date and term for which he was elected and who was elected to act as alternate for him in case of his inability.

3. A delegate, on presenting himself to the Committee on Credentials, may be seated even though he may not present part 2 of his credential, provided he is properly identified as the delegate who was elected by his association and whose name appears on the Secretary's record.

4. No alternate may be seated unless his credentials meet the same requirements as designated for the delegate and he can show written evidence that he is empowered by his delegate to act for him, except as provided for in Section 1 as amended (*as amended June 7, 1921*).

5. When a constituent state association reports that one of its elected delegates and his elected alternate are both unable to attend a specified annual session of the American Medical Association, the constituted authority of said constituent state association may fill the vacancies caused by the absence of both an elected delegate and his elected alternate, and such a substitute delegate or his substitute alternate who presents proper credentials signed by the president and secretary of said constituent state association shall be eligible to

regular membership in the House of Delegates of the American Medical Association in such a specified session (*as adopted, May 12, 1932*).

SCIENTIFIC ASSEMBLY

The Opening General Meeting, which constitutes the opening exercises of the Scientific Assembly of the Association, will be held Tuesday evening, June 11, 1940, at 8:00. The Sections will meet on Wednesday, Thursday and Friday, June 12, 13 and 14.

CONVENING AT 9:00 A. M. THE SECTIONS ON

Surgery, General and Abdominal.
Ophthalmology.
Pediatrics.
Pharmacology and Therapeutics.
Nervous and Mental Diseases.
Dermatology and Syphilology.
Gastro-Enterology and Proctology.
Radiology.

CONVENING AT 2:00 P. M. THE SECTIONS ON

Practice of Medicine.
Obstetrics and Gynecology.
Laryngology, Otology and Rhinology.
Pathology and Physiology.
Orthopedic Surgery.
Urology.
Preventive and Industrial Medicine and Public Health.
Miscellaneous Topics: Session on Anesthesia.

Registration Department

The Registration Department will be open from 8:30 a.m. until 5:30 p.m. on Monday, Tuesday, Wednesday and Thursday, June 10, 11, 12 and 13, and from 8:30 a.m. to 12:00 noon on Friday, June 14, 1940.

MORTALITY RATE FROM PERITONITIS AFTER APPENDICITIS DECREASES

The mortality rate from peritonitis (inflammation of the membrane lining the abdominal walls) complicating appendicitis was 17.22 per cent from 1934 to 1938 as compared with a rate of 33.9 per cent in operative cases alone during the period from 1915 to 1933, Mont R. Reid, M.D., and William P. Montanus, M.D., Cincinnati, report in a comparison of two series of cases, published in *The Journal of the American Medical Association* for April 6.

In their analysis of 1,153 cases of appendicitis treated at the Cincinnati General Hospital during the years 1934 to 1938 inclusive the authors found a total death rate of 4.86 as compared with 6.4 per cent during the period 1915 to 1933 inclusive. The rate of 17.22 per cent in peritonitis represents the most gratifying decrease. The very slight drop from 11.4 per cent to 10.08 in the group with abscess complicating appendicitis they consider discouraging. Greater conservatism in treating such patients, they say, might have resulted in a decreased mortality.

WOMAN'S AUXILIARY : OFFICERS 1940-1941

President—Mrs. H. G. Banister, Ila.

President-elect—Mrs. Lee Howard, 625 East 44th Street, Savannah.

First Vice-President—Mrs. W. W. Chrisman, 112 Corbin Avenue, Macon.

Second Vice-President—Mrs. Fred Rawlings, Sandersville.

Third Vice-President—Mrs. D. Lloyd Wood, Dalton.

Recording Secretary—Mrs. Loren Gary, Jr., Shellman.

Treasurer—Mrs. W. Bruce Schaefer, Toccoa.

Corresponding Secretary—Mrs. L. S. Patton, Athens.

Parliamentarian—Mrs. J. E. Penland, Waycross.

Historian—Mrs. W. A. Selman, 760 Penn Ave., N. E., Atlanta.

Press and Publicity—Mrs. J. Harry Rogers, 134 Huntington Road, N.W., Atlanta.

OFFICERS INSTALLED

Mrs. H. G. Banister, of Ila, was installed as president of the Woman's Auxiliary to the Medical Association of Georgia at the closing session of the sixteenth annual convention, held recently in Savannah, and Mrs. Lee Howard, of Savannah, was named president-elect. Other new officers are Mrs. W. W. Chrisman, of Macon, first vice-president; Mrs. Fred Rawlings, of Sandersville, second vice-president; Mrs. Lloyd Wood, of Dalton, third vice-president; Mrs. Loren Gary, Jr., of Shellman, recording secretary; Mrs. W. Bruce Schaefer, of Toccoa, treasurer; Mrs. L. S. Patton, of Athens, corresponding secretary; and Mrs. John E. Penland, of Waycross, parliamentarian.

Mrs. Eustace Allen, of Atlanta, retiring president, presided over the sessions and presented an outstanding report to the convention and another to the House of Delegates of the Medical Association of Georgia. Mrs. Allen's regime has been one of the most successful in the history of the Auxiliary.

The Auxiliary to the Ware County Medical Society, Mrs. Leo Smith, of Waycross, president, was awarded the Mrs. James N. Brawner cup for outstanding work during the year. Baldwin and Randolph counties won honorable mention. The Woman's Auxiliary to the Fulton County Medical Society, Mrs. Forrest M. Barfield, of Atlanta, president, won the Mrs. J. Bonar White award for the best exhibit entered and the Woman's Auxiliary to the Baldwin County Medical Society, Mrs. C. H. Richardson, of Milledgeville, president, won the Mrs. J. Bonar White award for the best scrapbook. The next convention will be held in Macon.

FIFTH DISTRICT

The Woman's Auxiliary to the Fifth District Medical Society met March 29 at St. Luke's tea room in Atlanta. The members were guests of the society at dinner. Mrs. George Williams, president, presided and Dr. Hugh Wood, president of the society, brought greetings. Mrs. E. Y. Walker, Jr., secretary, read the minutes of the fall meeting, which were approved. Dr. J. C. Patterson, of Cuthbert, president-elect of the Medical Association of Georgia, read an inter-

esting paper on "Some Georgia Health Problems," and Dr. Lloyd Craver, of Memorial Hospital, New York City, gave a most instructive talk on the cancer problem and how to combat it. Mrs. Eustace Allen, of Atlanta, president of the Woman's Auxiliary to the Medical Association of Georgia, inspired members with a beautiful talk on "Loyalty to the Auxiliary" and Mrs. H. G. Banister of Ila, president-elect, spoke informally. Rockdale County was represented by Mrs. Harvey Griggs and Fulton County by Mrs. Forrest M. Barfield, president, who submitted an excellent report of the year's work. Mrs. Barfield was given a rising vote of thanks for her splendid leadership. Mrs. Williams appointed Mrs. W. W. Anderson, Mrs. Forrest M. Barfield and Mrs. Joseph Yampolsky a Nominating Committee to present names of new officers at the next meeting.

FULTON COUNTY

Committee chairmen presented their annual reports at the April meeting of the Woman's Auxiliary to the Fulton County Medical Society, held at the Parish House of All Saints' Episcopal Church in Atlanta. Mrs. Forrest M. Barfield, president, presided and expressed appreciation to the chairmen for the reports, which showed unusual accomplishments. Mrs. Murdock Equen, chairman of Research in Romance of Medicine, talked interestingly on "The Romance of Medicine."

Mrs. Eustace Allen, State president, told of the convention to be held in Savannah. Fulton County delegates will be Mrs. Dan Y. Sage and Mrs. George Williams, with Mrs. H. Cliff Sauls and Mrs. Harry Rogers alternates. Mrs. Edgar Shanks, scrapbook chairman, exhibited the scrapbook of the Auxiliary and that made for the Medical Society. A nominating committee, composed of Mrs. Marion Benson, Mrs. Edgar H. Greene, Mrs. Edgar Shanks, Mrs. M. T. Edgerton and Mrs. F. C. Holden, was elected. Later the hospital committee, Mrs. W. C. Waters, Jr., chairman, and Mrs. Leland Baggett, co-chairman, served lunch.

NATIONAL CONVENTION

A last reminder to make your reservation for the 18th Annual Convention of the Woman's Auxiliary to the American Medical Association

to be held at the Hotel Pennsylvania, New York City, June 10 to 14, 1940. New York has much to offer aside from the convention and we are sure you will not want to miss the opportunity of visiting New York this year.

NINTH DISTRICT

The Woman's Auxiliary, Ninth District Medical Society, held its semi-annual meeting in the Winder Woman's club library, March 20, 1940. The colors of the Auxiliary, blue and gold, were carried out in the decorations. Refreshments were served the guests as they arrived and bouquets of pink camellias were presented them by Mrs. S. T. Ross.

Mrs. C. J. Roper of Jasper, presided over the business session with Mrs. Ralph Freeman, Sr., of Hoschton, as secretary. Mrs. O. N. Harden of Cornelia, led the devotional. Mrs. E. R. Harris of Winder, made the address of welcome which was responded to by Mrs. Bruce Schaefer of Toccoa.

The distinguished guests introduced were: Mrs. Eustace A. Allen of Atlanta, state president; Mrs. H. G. Banister of Ila, state president-elect; Mrs. Harry Rogers, Atlanta, state publicity chairman; Mrs. Bruce Schaefer, Toccoa, state Doctors' Day chairman; Mrs. C. B. Almond, Winder, originator of Doctors' Day; Miss Helen Estes of Gainesville, past department president American Legion Auxiliary.

Mrs. W. T. Randolph, president of the Winder Auxiliary, was elected vice district manager. Interesting and inspirational talks were made by Dr. Grady Coker, Canton, immediate past president, Medical Association of Georgia, Mrs. Allen, Mrs. Banister, Mrs. Rogers and Mrs. Schaefer.

After adjournment, through the courtesy of O. B. Langford, the ladies were shown through the Winder Bedspread Company, where many lovely bedspreads were on display and where some were seen in the process of making. Chenille pot holders were given as souvenirs.

Later the Auxiliary joined the Medical Society for a beautifully appointed luncheon at the Winder Hotel.

The tables were attractively decorated with pink-eyed bunny rabbits, eggs of bright and varied hues, multi-colored ribbons and yellow daffodils in blue pottery. The Easter motif was also featured in the four-course repast. Misses Dorothy Jane Eley, Lenora Burnett, Floy Nunn, Patsy Berry and Mesdames M. H. Berry, Horace Holland and G. C. Moseley, dressed in becoming pastel shaded caps and aprons, assisted Mrs. Reese Couch in serving. Dr. S. T. Ross, newly elected president of the Ninth District Society, acted as toastmaster and introduced the distinguished guests of both organizations.

BARROW COUNTY

The Woman's Auxiliary to the Barrow County

Medical Society met recently with Mrs. C. B. Almand at her home in Winder. Mrs. W. T. Randolph, president, presided. Plans were made for the observance of Doctors' Day and for entertaining the Ninth District Auxiliary. Mrs. Randolph, Mrs. Almand and Mrs. E. R. Harris were appointed delegates to the 16th annual convention of the Woman's Auxiliary to the Medical Association of Georgia in Savannah. Dues were paid and subscriptions taken for *Hygeia*, the national health magazine. It was announced that Mrs. E. M. McDonald was captain of Barrow County in the cancer drive. Mrs. S. T. Ross had charge of the following program, "What Is Your Community Doing for Its Children?", Mrs. W. L. Mathews; "Jane Todd Crawford" and "Brill's or Typhus Fever", Mrs. E. M. McDonald; and "Georgia Health Bulletin", Mrs. C. B. Almand. During the social hour refreshments were served. Present were Mesdames A. B. Russell, W. L. Mathews, E. M. McDonald, S. T. Ross, W. T. Randolph, E. R. Harris and C. B. Almand.

HABERSHAM COUNTY

The Woman's Auxiliary to the Habersham County Medical Society met recently at the home of Dr. and Mrs. C. M. Sharp at Alto. Mrs. Sharp, president, presided. Communications were read from Mrs. Fred Rawlings, state chairman of health films, and Mrs. J. L. Nevil, state historian. Mrs. Rawlings urged the distribution of more health literature and stressed the importance of health films and Mrs. Neville asked for a complete history of the Habersham Auxiliary. Members voted to contribute to the Student Loan Fund and to observe Doctors' Day by sending appropriate cards to each member of the county medical society. Mrs. O. N. Harden was appointed delegate to the Ninth District meeting in Winder. Following the business session, the hostess served refreshments. Present were Mesdames O. N. Harden, D. H. Garrison, H. E. Crow, F. C. Whelchel and C. M. Sharp.

BIBB COUNTY

Public health problems were discussed by Dr. Dan Bowdoin, of Atlanta, State epidemiologist, at a recent meeting of the Woman's Auxiliary to the Bibb County Medical Society, held at the home of Mrs. Hall Farmer in Macon. Stating that Georgians need more money to spend for health and medical care, Dr. Bowdoin said the very situation that has caused the need makes it difficult to provide the funds. The low income of the State, he said, necessitates a low standard of living, many of our people being handicapped by malnutrition, lack of good housing and sanitary facilities and being unable to obtain sufficient education to teach them the way to better health. He stressed the work of the State Department of Health in trying to

control communicable diseases, its sanitation work and its maternal and child health program. Mrs. J. P. Holmes, president, presided over the meeting and Mrs. W. W. Chrisman, joint hostess, assisted Mrs. Farmer in serving tea.

SPALDING COUNTY

Mrs. Kenneth Hunt entertained the Woman's Auxiliary to the Spalding County Medical Society recently at her home in Griffin. Mrs. T. O. Vinson, president, presided and plans were made to entertain the doctors of Spalding and Pike counties at a steak supper in observance of Doctors' Day. Present were Mesdames Hunt, Vinson, D. A. Forrer, C. F. Griffith, H. W. Copeland, H. J. Copeland, J. T. Leslie and W. C. Miles.

The Auxiliary's party on Doctors' Day was held at the home of Dr. and Mrs. Kenneth Hunt and proved a delightful event. Mrs. Vinson, president, was assisted in entertaining by Mrs. Hunt and other Auxiliary members. Present were Dr. and Mrs. Hunt, Dr. and Mrs. Vinson, Dr. and Mrs. Leslie, Dr. and Mrs. H. W. Copeland, Dr. and Mrs. H. J. Copeland, Dr. and Mrs. Forrer, Dr. and Mrs. Floyd, Dr. and Mrs. Miles, Dr. and Mrs. T. I. Hawkins and Miss Florence Scotch.

WASHINGTON COUNTY

Mrs. J. B. Dillard was elected president of the Woman's Auxiliary to the Washington County Medical Society at a recent meeting held with Mrs. B. L. Helton at her home in Sandersville. Other officers are Mrs. Helton, first vice-president; Mrs. N. Overby, second vice-president; Mrs. Emory Newsome, treasurer; Mrs. F. B. Rawlings, recording secretary; Mrs. O. D. Lennard, corresponding secretary; Mrs. W. M. Cason, parliamentarian; and Mrs. O. L. Rogers, reporter.

The Auxiliary entertained the society at dinner on Doctors' Day at the Woman's Club in Sandersville. A color scheme of yellow and white was carried out and covers were laid for 23 guests. Mrs. Dillard, president, welcomed the guests and during the evening Mrs. B. L. Helton, accompanied by Mrs. R. E. Roughton, gave vocal solos, Miss Eugenia Newsome gave a reading, and Mrs. Roughton presented piano selections. Dr. F. B. Rawlings expressed thanks to the society for the delightful entertainment.

RICHMOND COUNTY

Mrs. Lucius N. Todd was installed as president of the Woman's Auxiliary to the Richmond County Medical Society at a recent meeting held at the home of Mrs. Everett Sanderson in Augusta, with Mrs. William Hamilton and Mrs. A. P. Briggs co-hostesses. Other officers are Mrs. John Brittingham, vice-president; Mrs. Lombard Kelly, second vice-president; Mrs. Ralph Chaney, third vice-president; Mrs. A. P.

Briggs, recording secretary; Mrs. Joseph Akerman, corresponding secretary; and Mrs. M. L. Compton, treasurer. Mrs. Eugene Matthews is retiring president.

A letter was read from Miss Melba Sparks. She thanked the Auxiliary for 9 copies of *Hygeia*, which was presented to the Augusta schools. Members made plans for a barbecue for the society on Doctors' Day. Later tea was served.

Mrs. Ralph Chaney, past president of the State Auxiliary, upon her return to Augusta from the recent Episcopal regional meeting in Thomasville, left again for Atlantic City as a delegate to the national Y.W.C.A. convention. Mrs. Chaney then went to White Plains, N. Y., for a visit to her mother, after which she attended the convention of the Georgia Auxiliary in Savannah.

DOCTOR'S DAY

Members of the Woman's Auxiliary to the Medical Association of Georgia observed Doctor's Day on March 30, this being the occasion on which members of the profession, both living and dead, are honored. A radio program, given over station WSB, featured Mrs. Forrest M. Barfield, president of the Woman's Auxiliary to the Fulton County Medical Society, and Dr. W. A. Selman, of Atlanta, in short talks. The various Auxiliaries in the State arranged programs or gifts for members of their county societies. Mrs. W. Bruce Schaefer, of Toccoa, is State chairman for Doctor's Day.

POLK COUNTY

Mrs. J. E. Griffith, of Rockmart, was elected president of the Woman's Auxiliary to the Polk County Medical Society at an organization meeting on April 3 at the Federated Club House in Cedartown. Mrs. John McGehee, secretary-treasurer; Mrs. P. O. Chaudron, Mrs. Seals L. Whitely and Mrs. W. H. Lucas, all of Cedartown, are other charter members. They will seek to enroll all eligible women in the county. Mrs. Eustace A. Allen, of Atlanta, state president, and Mrs. J. Harry Rogers, of Atlanta, State Press and Publicity chairman, attended the meeting and made short talks. A number of wives of the members of the Seventh District Medical Society, which was in session in Cedartown, attended the meeting, after which they were taken on a tour of the city and entertained at a barbecue at the Country Club.

ADULT HUMAN PULSE RATE IS VARIABLE

"The adult human pulse rate is considerably more variable than many persons think," *Hygeia, The Health Magazine*, declares.

"Extensive and exact studies of the measurement of the heart rate of persons in New York City have shown pulse rates ranging from 55 to 120 beats per minute in a healthy person in a normal twenty-four hour cycle."

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*INTRASTATE EVALUATION STUDY OF THE
PERFORMANCE OF SEROLOGIC TESTS
FOR SYPHILIS IN GEORGIA, 1939

T. F. SELLERS,† M.D.

E. L. WEBB,‡ A.B.

L. E. BURNEY,* M.D.

Atlanta

For the past few years the U. S. Public Health Service has been offering annually to state health laboratories an opportunity to participate in an evaluation study of the performance of the serodiagnostic tests for syphilis. The state departments of health have welcomed this opportunity to compare the results of examinations in their laboratories with those obtained by the originators of the tests on the same group of specimens. These evaluation studies have been very beneficial and have resulted in an improvement of test performance in many laboratories.

Since it was too large an undertaking to include all laboratories in this project, the U. S. Public Health Service is now encouraging each state laboratory which achieved satisfactory rating to conduct a similar evaluation study among all laboratories within its boundaries; that is, all performing serologic tests for syphilis.

The Georgia Department of Public Health

†Director of Laboratories, State Department of Public Health.

‡Serologist State Department of Public Health.

*P. A. Surgeon, United States Public Health Service.

was among the first to conduct such an intrastate study. After determining that there were forty laboratories within the state performing serologic tests for syphilis, the nature of the proposed study was explained and each was invited to participate.

Twenty-one laboratories accepted the invitation on a voluntary basis. This group performed 92 per cent of the 160,000 serologic tests examined in 1938, exclusive of those examined by the State laboratories. Fourteen requested evaluation of the Kahn test only, one of the Wassermann test only and six of both. Other laboratories expressed interest, and only seven preferred not to participate for various reasons.

In addition to these participating laboratories, all three units of the State laboratory system were included, the central laboratory serving as the control for the Kahn test. Since this test is the only one used by the State laboratories, arrangements were made to have the U. S. Public Health Service V. D. Research Laboratory serve as the control for the Wassermann test.

Arrangements were made to secure 110 syphilitic blood donors from local venereal disease clinics. Fifty-five members of a donors' club for transfusions were selected for the normal group. Allowance was thus made for the probability that a few specimens would be received in an unsatisfactory condition, and that each laboratory would test not less than 100 syphilitic and 50 nonsyphilitic specimens.

A maximum of ten specimens was collected

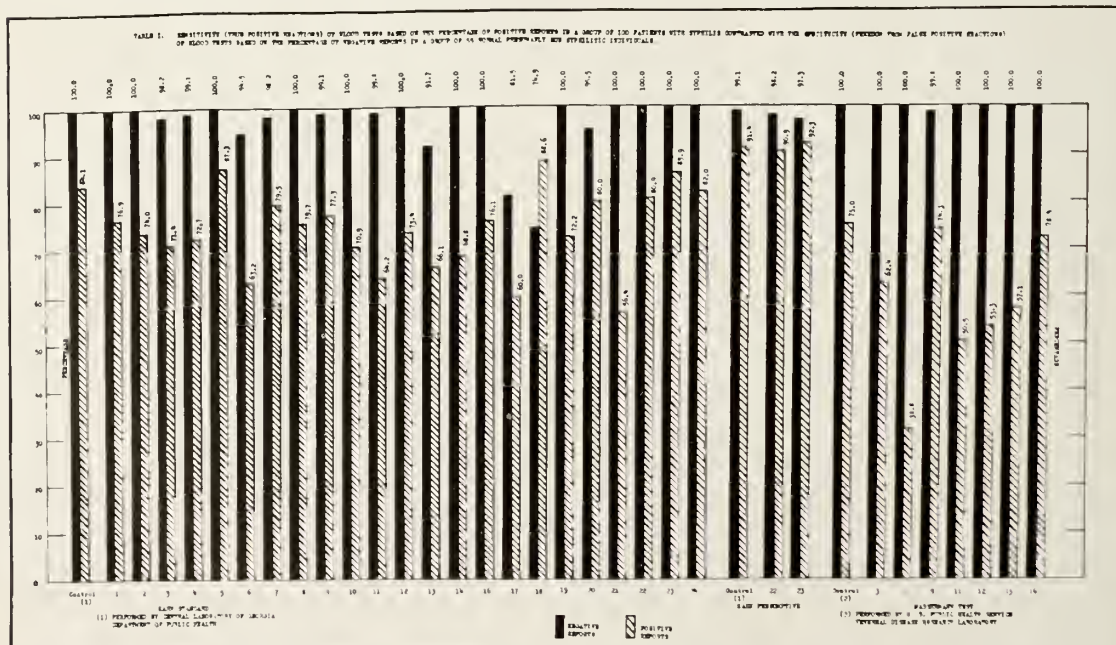


TABLE I

The sensitivity (true positive reactions) of serodiagnostic tests for syphilis (Kahn presumptive test, Kahn standard diagnostic test and Wassermann test) based upon their ability to detect syphilis in blood specimens from 110 patients with syphilis, and the specificity (freedom from false positive reactions) of serodiagnostic tests for syphilis based upon their ability to exclude syphilis in 55 specimens from normal presumably nonsyphilitic individuals.

Serologic Test Performed and Code Numbers of Participating Laboratories	SENSITIVITY					SPECIFICITY				
	TOTAL SYPHILITIC PATIENTS 110					INDIVIDUALS 55				
	Specimens Examined	Positive Reports	Doubtful Reports	Negative Reports	Rating in Per Cent	NORMAL, PRESUMABLY NONSYPHILITIC				
						Specimens Examined	Negative Reports	Doubtful Reports	Positive Reports	Rating in Per Cent
KAHN STANDARD										
Control ¹	110	92	1	17	84.1	55	55	0	0	100.0
No. 1	106	79	5	22	76.9	55	55	0	0	100.0
2	102	73	5	24	74.0	52	52	0	0	100.0
3	110	78	1	31	71.4	55	54	0	1	98.2
4	110	77	6	27	72.7	54	53	1	0	99.1
5	110	94	4	12	87.3	55	55	0	0	100.0
6	110	67	5	38	63.2	55	52	0	3	94.5
7	110	87	1	22	79.5	55	54	0	1	98.2
8	109	82	1	26	75.7	47	47	0	0	100.0
9	108	83	1	24	77.3	55	54	1	0	99.1
10	110	78	0	32	70.9	55	55	0	0	100.0
11	109	67	6	36	64.2	55	54	1	0	99.1
12	107	77	3	27	73.4	55	55	0	0	100.0
13	109	71	2	36	66.1	54	45	9	0	91.7
14	109	73	4	32	68.8	55	55	0	0	100.0
16	109	83	0	26	76.1	54	54	0	0	100.0
17	110	62	8	40	60.0	54	42	4	8	81.5
18	110	96	3	11	88.6	55	38	6	11	74.5
19	108	76	4	28	72.2	55	55	0	0	100.0
20	110	87	2	21	80.0	55	51	3	1	95.5
21	110	62	0	48	56.4	55	55	0	0	100.0
22 ³	110	89	0	21	80.9	55	55	0	0	100.0
23 ⁴	110	93	3	14	85.9	55	55	0	0	100.0
24 ²	100	81	2	17	82.0	54	54	0	0	100.0
KAHN PRESUMPTIVE										
Control ¹	110	99	3	8	91.4	55	54	1	0	99.1
No. 22	110	99	1	10	90.5	55	53	2	0	98.2
23	110	100	3	7	92.3	55	52	3	0	97.3
WASSERMANN TEST										
Control ²	100	70	10	20	75.0	55	55	0	0	100.0
No. 3	109	68	0	41	62.4	55	55	0	0	100.0
7	110	35	0	75	31.8	55	55	0	0	100.0
9	105	77	2	26	74.3	55	54	1	0	99.1
11	107	54	0	53	50.5	55	55	0	0	100.0
12	107	53	8	46	53.3	55	55	0	0	100.0
15	105	60	0	45	57.1	55	55	0	0	100.0
16	105	76	0	29	72.4	54	54	0	0	100.0

1—Performed by Central Laboratory of Georgia Department of Public Health.

2—Performed by U. S. Public Health Service Venereal Disease Research Laboratory.

3—Performed by Albany Branch Laboratory of Georgia Department of Public Health.

4—Performed by Waycross Branch Laboratory of Georgia Department of Public Health.

each day under aseptic conditions, labeled with identifying numbers, and transmitted to the participating laboratories by first class mail. Extraordinary care was observed in the labeling and distribution of the specimens. Donors from the normal and syphilitic groups were mixed in varied and irregular order from time to time. With two or three exceptions, all consignments were from mixed groups of donors.

In order to simulate insofar as possible the condition of the specimens upon receipt by the participating laboratories, and also the time of examination, the consignment for our own labo-

ratory was left at room temperature until the following day. For the same reasons specimens were sent to the Venereal Disease Research Laboratory of the U. S. Public Health Service by air mail. The technicians in our laboratory were not given any information relative to the donors of the specimens.

Results of Study

A total of 1,125 specimens was distributed. One specimen only was reported as not received. Ten specimens were broken in transit, and six were hemolyzed.

In this study we found a lack of uniformity among the participating laboratories in interpolating the individual tube readings, especially in the Kahn test, into positive, doubtful, and negative results. In some instances of identical tube readings one laboratory would report positive, another, doubtful; and a third, negative.

Therefore, for an analytical and comparative study of the reports, it became necessary to reinterpolate some of the results. The method of reporting employed in the laboratories of the State Department of Public Health was adopted as the criterion. In the case of certain laboratories this decreased the sensitivity, but at the same time increased the specificity of the performance of the test. Sensitivity of the test indicates the ability to obtain positive reactions in known cases of syphilis. Specificity refers to the ability to obtain negative reactions on specimens from persons free of syphilis.

One point was allowed for positive; one-half point for doubtful; and none for negative results in the syphilitic group. In the normal group one point was allowed for negative; one-half point for doubtful; and none for positive results. One, two, three, and four plus reactions were classified as positive. Anticomplementary reactions in the Wassermann test were regarded as "no test performed." Percentage rating of sensitivity and specificity was calculated on the basis of the number of specimens examined by each laboratory.

Table I gives the comparative sensitivity and specificity of test performance.

For obvious reasons the participating laboratories were designated by numbers assigned to them in the beginning of the study. Their identity is kept in strict confidence and cannot be revealed.

In accordance with the policy of the U. S. Public Health Service, a participating laboratory should obtain a sensitivity rating within 10 per cent of the control laboratory, and a specificity rating not less than 98 per cent in order to be considered as having achieved satisfactory test performance.

Summary

1. All three laboratories of the Georgia Department of Public Health and the U. S. Public Health Service Laboratory agreed within five per cent of each other in the performance of the Kahn standard test as related to sensitivity. They all obtained 100 per cent specificity.

2. Of those laboratories performing the Kahn standard test:

a. Seven obtained a satisfactory rating both in sensitivity and specificity.

b. Eight laboratories were unsatisfactory for sensi-

tivity, but were satisfactory for specificity.

c. Two laboratories had a satisfactory sensitivity, but an unsatisfactory specificity.

d. Three laboratories were unsatisfactory both for specificity and sensitivity.

3. Of those laboratories performing the Wassermann test:

a. Two were satisfactory both for sensitivity and specificity.

b. Five had a satisfactory specificity but an unsatisfactory sensitivity.

Conclusion

1. Such an evaluation is of inestimable value to the laboratories themselves, to physicians, to the State Health Department, and to the public.

2. These evaluations must be conducted annually to be of permanent value.

3. In order to derive full benefit from such evaluations, provisions are being made to assist any laboratory in the State requesting our help in improving the efficiency of the performance of serologic tests for syphilis, either by additional training of its technicians in our laboratory or by inspection of its equipment and operation.

EMORY MEDICAL ALUMNI CLINICS

On other pages of this Journal will be found the 1940 program of the Emory Medical Alumni Clinics. The officers of that organization extend a cordial invitation to all physicians of the Southeast, and particularly the graduates of Emory University, to participate in the clinics at Atlanta, June 4-7.

Graduate medical education gained impetus following the World War. Physicians who were privileged to serve in that war recognized the necessity of extending all phases of medical education. Some of them conferred with Dr. W. S. Elkin, dean of the School of Medicine of Emory University, Atlanta, and Emory Medical Alumni Clinics have been annual events since 1922. Dr. Frank K. Boland, of Atlanta, was first president of the clinics; Dr. Weldon E. Person, of Atlanta, has been chairman of the program committee since their organization, and the late Dr. Will Roberts, of Atlanta, was secretary-treasurer until 1928, when he was succeeded by Dr. Marion Pruitt, of Atlanta, who has served continuously since that time. Other Atlanta

physicians who have worked to make the clinics successful are Dr. Joe P. Bowdoin, Dr. Marion Benson, Sr., Dr. J. L. Campbell, Dr. Hal Davison, Dr. George Fuller, Dr. J. D. Martin and Dr. Carter Smith.

The programs of the clinics are planned to offer a variety of material. In addition time is provided for class reunions of Emory's twenty-six hundred fifty-two medical alumni, twelve hundred seventy-two of whom live in Georgia. At the conclusion of the scientific program a banquet is held at which some distinguished medical alumnus addresses those present.

EMORY MEDICAL ALUMNI CLINICS

JUNE 4-7, 1940

TUESDAY, JUNE 4

Registration at College Bldg., corner Butler and Armstrong streets—Grady Hospital, White Unit.

8:00 to 10:00 A.M.

Surgical Clinics. Drs. Riley, Lynn Fort and Glenn.

Urological Clinic. Drs. Steve Brown and Upchurch—Grady Hospital, Colored Unit.

Surgical Clinic. Dr. J. D. Martin—Lecture Room, Dr. Howard Hailey, presiding.

8:30 to 9:00 A.M.

Pruritus Ani et Vulvi. (Eczema). Dr. Hugh Hailey.

9:00 to 9:30 A.M.

Scalenus Anticus Syndrome. Dr. Exum Walker.

9:30 to 10:00 A.M.

Pneumothorax in Pulmonary Tuberculosis. Dr. Bernard Wolff.

10:00 to 10:30 A.M.

Significance and Treatment of Gallbladder Colic. Dr. C. W. Roberts.

10:30 to 11:00 A.M.

Treatment of Cardiac Edema. Dr. E. A. Bancker.

11:00 to 11:30 A.M.

The Diagnosis and Treatment of Bronchiectasis. Dr. Aven.

11:30 to 12:00 A.M.

The Diagnosis and Treatment of Undulant Fever. Dr. Bunce.

12:00 to 12:30 P.M.

The Newer Methods of Treatment of Peptic Ulcer. Dr. Poer.

12:30 to 1:00 P.M.

Medical Clinic. Dr. C. W. Strickler, Sr. Dr. Oppenheimer, presiding.

2:00 to 2:30 P.M.

Diagnosis and Treatment of Common Skin Diseases. Colored Lantern Slides, Dr. Nippert.

2:30 to 3 P.M.

The Use of Physical and Laboratory Methods in the Differential Diagnosis of Jaundiced States. Dr. Merrill.

3:00 to 3:30 P.M.

Some Unusual Cases of Allergy. Dr. Hal Davison.

3:30 to 4:00 P.M.

Dermatological Allergy. Lantern Slides. Drs. Herbert Alden and Jack Jones.

WEDNESDAY, JUNE 5

GRADY HOSPITAL, WHITE CLINIC

8:00 to 10:00 A.M.

Surgical Clinics. Drs. Fuller, Sanders, Poer and York.
Surgical Proctological Clinic. Dr. Pruitt—Grady Hospital Colored Unit.

Surgical Clinic. Dr. Dan Elkin—Lecture Room. Dr. Kells Boland, presiding.

8:30 to 9:00 A.M.

Prognosis in Valvular Heart Disease. Dr. Blackford.

9:00 to 9:30 A.M.

Tremors and Other Involuntary Movements. Diagnosis and Treatment. Dr. Wilson.

9:30 to 10:00 A.M.

The Surgical Management of Chronic Duodenal and Gastric Ulcers. Lantern Slides. Dr. Grove.

10:00 to 10:30 A.M.

The Use of Iron in the Treatment of Anemia. Dr. M. S. Dougherty, Jr.

10:30 to 11:00 A.M.

The Problem of Low Back Pain and Sciatica. Dr. Fincher.

11:00 to 11:30 A.M.

Medical Care of Diabetics During Surgical Treatment. Dr. Harold Bowcock.

11:30 to 12:00 A.M.

Tumors of the Breast. Colored Moving Pictures. Drs. T. C. Davison and Rudder.

12:00 to 12:30 P.M.

The Blood Sedimentation Test as a Routine Procedure. Dr. Agnor.

12:30 to 1:00 P.M.

Medical Clinic. Dr. Paullin. Dr. Geo. Fuller, presiding.

2:00 to 2:30 P.M.

Recent Methods in the Treatment of Acute Respiratory Infections in Children. Dr. Anderson.

2:30 to 3:00 P.M.

The Spinal Fluid in Normal and Abnormal Children. Dr. Yampolsky.

3:00 to 3:30 P.M.

Measles Prophylaxis. Dr. Dickson.

3:30 to 4:00 P.M.

Otitis Media in Children. Dr. Kiser.

THURSDAY, JUNE 6

GRADY HOSPITAL, COLORED UNIT

8:00 to 10:00 A.M.

Gynecological Clinic. Dr. Denton.

Surgical Gynecological Clinic. Dr. Frank Wells.
Lecture Room. Dr. Carter Smith, presiding.

8:30 to 9:00 A.M.

Carcinoma of the Lung. Pneumonectomy. Moving Picture. Dr. Kells Boland.

9:00 to 9:30 A.M.

Disorders of the Menopause. Dr. Greene.

9:30 to 10:00 A.M.

Some of the Unusual Diagnoses in Gastrointestinal Disorders. Dr. Lowance.

10:00 to 10:30 A.M.

Dysgerminoma of the Ovary. Dr. Baggett.

10:30 to 11:00 A.M.

Present Day Treatment of Pneumonia. Dr. Sauls.

11:00 to 11:30 A.M.

Cancer of the Breast. Dr. J. L. Campbell.

11:30 to 12:00 A.M.

X-Ray Treatment for Fibroid Tumor of the Uterus. Dr. Landham.

12:00 to 12:30 P.M.

Surgical Sequela of Streptococcus Infection of the Throat. Dr. Selman.

12:30 to 1:00 P.M.

Injuries of the Semilunar Cartilages of the Knee. Dr. Jos. H. Boland. Dr. Pruitt, presiding.

2:00 to 2:30 P.M.

Management of Yeast Infections in Pregnancy. Dr. Fred Minnich.

2:30 to 3:00 P.M.

Diseases of the Vulva. Dr. M. T. Benson, Jr.

3:00 to 3:30 P.M.

Treatment of Toxemias of Pregnancy. Dr. B. H. Boyd.

3:30 to 4:00 P.M.

Management of Occiput Posterior Position. Dr. Goodpasture.

8:00 P.M.

Meeting at Fulton County Medical Society. 33 Prescott St., N. E. Dr. Howard Hailey, presiding.*Indigestion.* Dr. Hugh Wood.*The Problem of Acute Intestinal Obstruction.* Dr. F. K. Boland, Sr.*Infantile Diarrheas.* Dr. Dixon Fowler.

FRIDAY, JUNE 7

GRADY HOSPITAL, COLORED UNIT

LECTURE ROOM. Dr. J. E. Paullin, presiding.

8:00 to 9:00 A.M.

Vesical Anomalies. Dr. Kirkland.

9:00 to 9:30 A.M.

The Problem of Recurring Urinary Calculi. Dr. Sinkoe.

9:30 to 10:00 A.M.

Urologic Causes of Hypertension. Drs. Earl Floyd and J. L. Pittman.

10:00 to 10:30 A.M.

Intravaginal Pressure plus Heat in the Treatment of Moderate Genital Prolapse. Dr. Beasley.

10:30 A.M.

*Symposium on Sulfanilamide and Its Derivatives.**Theories Concerning the Action of these Drugs.* Dr. McGinty.*Their Use in the Treatment of Pneumonia.* Dr. C. W. Strickler, Jr.*Employment in Endocarditis and Blood Stream Infections.* Dr. Carter Smith.*Their Use in Urology.* Drs. Ballenger, McDonald and Coleman.*Their Use in Diseases of the Nervous System.* Dr. W. A. Smith.

7:30 P.M.

Banquet. Henry Grady Hotel.

Cheese contains in concentrated form many valuable nutritive elements of milk and is not indigestible as is commonly believed. *Hygeia, The Health Magazine* for March declares.

NEWS ITEMS

THE EIGHTH DISTRICT MEDICAL SOCIETY met at the Y. M. C. A. Hall, Waycross, April 9. Titles of papers on the scientific program were: *Abdominal Pregnancy* by Dr. Kenneth McCullough, Waycross; *Medical Economics*, Dr. B. G. Owens, Valdosta; *Some Medical Problems in Georgia*, Dr. J. C. Patterson, Cuthbert, president of the Medical Association of Georgia; *Some Recent Advances in Ophthalmic Surgery with Particular Reference to Cataracts*, Dr. B. H. Minchew, Waycross; *Acute Myeloid or Myelogenous Leukemia—Report of Case*, Dr. J. W. Simmons, Brunswick, and Dr. J. O. Simmons, Woodbine; *An Approach to the Cancer Problem Through Public Health Methods*, Dr. Ralph Mosteller, Atlanta, director, Cancer Control, State Department of Public Health; *Intracranial Injuries of the Newborn—Illustrated with Motion Picture*, Dr. F. G. Eldridge and Dr. A. M. Johnson, Atlanta.

DR. FRED A. METTLER, Augusta, spoke before the Augusta Exchange Club, March 28.

DR. D. S. REESE, Carrollton, attended the Eye, Ear, Nose and Throat Clinics recently at George Washington University School of Medicine, Washington, D. C.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on April 6. Dr. P. H. Smith read a paper entitled, *Spinal Anesthesia in Abdominal Surgery*; the discussion was led by Dr. M. J. Epting and Dr. E. T. Upson. Dr. Howard J. Morrison reported a case, *Marasmus*.

THE PHYSICIANS AND DENTISTS BUREAU of Augusta, elected the following officers at its annual meeting held recently: Dr. J. H. Butler, president; Dr. S. J. Lewis, vice president; and Dr. L. P. Holmes, secretary-treasurer.

DR. J. FLETCHER HANSON, Macon, and Dr. W. P. Harbin, Jr., Rome, have been elected to fellowship in the American College of Physicians.

THE UNIVERSITY OF CHICAGO, Department of Obstetrics and Gynecology, the Chicago Lying-In Hospital in cooperation with the Illinois State Department of Public Health and the Children's Bureau, and United States Department of Labor are offering a postgraduate course in obstetrics which will run from 5 to 6 weeks. Applications and inquiries should be addressed to Postgraduate Course, Department of Obstetrics and Gynecology, 5848 Drexel Avenue, Chicago, Illinois.

THE VISITING STAFF OF GRADY HOSPITAL, Atlanta, met on April 9. Dr. R. B. Logue reported a case, *Late Reactions in the Treatment of Syphilis by Neoarsphenamine*; Dr. M. H. Harris, *The Treatment of Thrombophlebitis by the Injection of the Sympathetic Ganglia*.

THE STAFF OF THE CRAWFORD W. LONG MEMORIAL HOSPITAL, Atlanta, met April 11. Dr. W. L. Thomason reported a case, *Streptococcus Meningitis with Complications and Recovery*; Dr. W. L. Cousins and Dr. Needham Bateman, *A Case of Strangulated Femoral Hernia which Produced Intestinal Obstruction in a Four and One-Half Months Pregnant Woman*; Dr. Wadley R. Glenn, *Thrombophlebitis*.

YOU MAY OBTAIN A PICTURE of Dr. Noble Wymberly Jones, 1723-1805, suitable for framing and display in your office by writing to Abbott Laboratories, 145-7 Walton Street, N. W., Atlanta, or by writing to the home office in North Chicago, Illinois. Read the biographical sketch of Dr. Jones in the ad of Abbott Laboratories in this issue of THE JOURNAL.

DR. ROY R. KRACKE, Emory University, gave a series of lectures at the meetings of the State Medical Association of Texas, which convened in Dallas, Texas, the week of May 13. The lectures were on various phases of diseases of the blood.

JOHN WYETH AND BROTHER, 1118 Washington Avenue, Philadelphia, announce with pleasure the completion of the painting of Sir William Osler, M.D., by Dean Cornwell, A.N.A., *Osler at old Blockley*. This painting is the second in a series, *Pioneers of American Medicine*. A limited number of reproductions will be available. It shall be their pleasure to reserve a personal copy at your request. Write John Wyeth and Brother immediately, if you want a copy.

THE SECOND DISTRICT MEDICAL SOCIETY met at Moultrie, April 12. Titles of papers on the program were: *Management and Treatment* by Dr. W. A. Newman, Macon; discussed by Dr. F. K. Neill, Albany. *Cardiac Problems*, Dr. Thos. L. Ross, Macon; discussed by Dr. Alex Freeman, Albany. *Operative Correction of Eye—Illustrated with Colored Motion Pictures*, Dr. James R. Paulk, Moultrie; discussed by Dr. H. M. Moore, Thomasville. *Transurethral Resection of Prostate*, Dr. J. C. Keaton, Albany; discussed by Dr. Rudolph Bell, Thomasville.

DR. AND MRS. W. T. RANDOLPH, Winder, entertained the physicians of Winder and their wives at dinner March 29.

THE MEDICAL STAFF OF THE WARREN A. CANDLER HOSPITAL, Savannah, elected Dr. W. A. Cole president for the eighth consecutive year. Dr. D. B. Edwards, vice president, and Dr. John L. Elliott, secretary.

THE BIBB COUNTY MEDICAL SOCIETY met in Ridley Hall, Macon, April 16.

THE STAFF OF THE GEORGIA BAPTIST HOSPITAL, Atlanta, met on April 16. Members of the executive staff are: Dr. T. P. Goodwyn, president; Dr. George Fuller, first vice president; Dr. S. T. Brown, past president; Dr. Hal M. Davison, second vice president; Dr. H. W. Minor, secretary; and Mr. W. D. Barker, superintendent. Personnel of the committees are: *Records*—Dr. M. I. Lowance, chairman; Dr. J. G. McDaniel, Dr. Hugh Hailey, Dr. H. H. Askew, and Dr. J. P. Garner. *Nursing*—Dr. J. C. Blalock, chairman; Dr. Joseph C. Massee, and Dr. Zach W. Jackson. *Rules*—Dr. L. G. Baggett, chairman; Dr. Major Fowler, and Dr. Edgar Boling. *Standardization*—Dr. C. W. Roberts, chairman; Dr. F. M. Barfield, and Dr. Crawford Barnett. *Laboratory*—Dr. John Funke, chairman; Dr. A. J. Ayers, Dr. Geo. F. Klugh, and Dr. Jack Norris. *Dental*—F. A. Daniel, D.D.S., chairman; Earl Jenkins, D.D.S.,

and R. F. Ingram, D.D.S. *Clinicopathological*—Dr. Marion C. Pruitt, chairman; Dr. H. W. Jernigan, Dr. Philip Nippert, Dr. W. S. Dorough, Dr. A. M. Dimmock, Dr. B. Russell Burke. *Radiology*—Dr. W. F. Lake, chairman; Dr. O. D. Hall, and Dr. Cosby Swanson. *Intern*—Dr. O. H. Matthews, chairman; Dr. Ben H. Clifton, and Dr. Jas. L. Pittman. *Curriculum*—Dr. W. Frank Wells, chairman; Dr. W. A. Selman, and Dr. Claude Griffin. *Surgical*—Dr. B. L. Shackelford, chairman; Dr. A. S. Sanders, Dr. Bomar A. Olds, Dr. W. A. Kelley, and Dr. Hugh Cochran.

EMORY UNIVERSITY SCHOOL OF MEDICINE, Emory University, is the recipient of a grant of \$1800 from the John and Mary R. Markle Foundation of New York City to finance a study of nutrition in diabetes by Dr. Harold M. Bowcock, assistant professor of medicine at Emory University.

THE MEMBERS OF THE WOMAN'S AUXILIARY TO THE MACON COUNTY MEDICAL SOCIETY decorated the graves of deceased doctors in that county on March 30. Among other graves decorated was that of Dr. W. F. Crumley one of the first to practice medicine in Macon county.

THE FULTON COUNTY MEDICAL SOCIETY met at the Academy of Medicine, 38 Prescott Street, N. E., Atlanta, April 18. Doctors Thos. P. Goodwin and H. Walker Jernigan reported a case, *Staphylococcic Blood Stream Infection Treated with Sulfamethylthiazol*. Dr. Wm. Perrin Nicolson, Jr., gave a clinical talk, *Highlight of a Visit to the Mayo Clinic*. Dr. Lee Bivings read a paper entitled, *The Relation of Asthmatic Bronchitis to Chronic Upper Respiratory Infections in Children: A Five Year Study of 235 Cases*; discussed by Dr. Mason Lowance and Dr. R. S. Leadingham.

THE GEORGIA PUBLIC HEALTH ASSOCIATION will meet at the Ansley Hotel, Atlanta, May 23-25. An invitation is extended to all members of the Association.

THE SECOND DISTRICT MEDICAL SOCIETY met in Moultrie, April 12. The next meeting of the Society will be held in Cairo, October 11. Officers elected were: Dr. J. R. Paulk, Moultrie, president; Dr. Carl S. Pittman, Tifton, vice president; Dr. J. C. Brim, Pelham, secretary-treasurer. Speakers on the program included Dr. J. J. Collins, Thomasville; Dr. A. W. Rehberg, Cairo; and Dr. Alex Freeman, Albany.

THE SOUTHEASTERN SECTION OF THE AMERICAN CONGRESS OF PHYSICAL THERAPY will meet at the Biltmore Hotel, Atlanta, May 20-21. Georgia physicians on the program include: Dr. Edgar G. Ballenger, Atlanta; Dr. J. W. Landham, Atlanta; Dr. Mason I. Lowance, Atlanta; Dr. Wm. R. Crowe, Atlanta; Dr. T. G. Smaha, Griffin; Dr. Geo. Williams, Atlanta; Dr. W. W. Turner, Nashville; Dr. Hal M. Davison, Atlanta.

DR. ED H. GREENE, Atlanta, spoke before a meeting of the American Legion Post No. 50 and the Woman's Auxiliary in College Park, April 18.

DR. AND MRS. T. H. BRABSON, CORNELIA, entertained members of the Habersham County Medical Society and Woman's Auxiliary in their home, April 11.

THE FULTON COUNTY MEDICAL SOCIETY met at the Academy of Medicine, Atlanta, May 2. Dr. Joseph C. Read and Dr. Edward Jones reported a case, *Carbuncle of Neck Treated with Sulfamethylthiazol*; Dr. Earl Floyd and Dr. J. L. Pittman, clinical talks, *Factors Responsible for Sterility and Infertility in the Male*; Dr. T. C. Davison read a paper, *Adenocarcinoma of the Thyroid Gland—Illustrated with Motion Pictures*. The discussion was led by Dr. Floyd W. McRae and Dr. D. Henry Poer.

DR. A. W. REIBERG, Cairo, has been appointed local surgeon for the A. C. L. R. R.

DR. MICHAEL HOKE AND MISS BESS FEEBECK, both of Atlanta, were honor dinner guests of the Atlanta Historical Society at its annual dinner April 20.

DR. E. J. DORMINY, Fitzgerald, celebrated his fiftieth anniversary as a practicing physician in Irwin and Ben Hill counties, April 20. He was honored with a reception at the home of Dr. and Mrs. W. P. Coffee. He is State Senator from the 45th District.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, May 2.

THE STAFF OF EMORY UNIVERSITY HOSPITAL met on May 6. Dr. Earl Floyd, Dr. J. L. Pittman, Dr. C. W. Strickler, Jr., and Dr. E. F. Fincher reported cases of *Hypertension Relieved by Nephrectomy*; Dr. D. Henry Poer and Dr. Rice reported cases of *Hyperthyroidism in the Aged*; Dr. E. Van Buren and Dr. I. A. Ferguson reported cases of *Regional Enteritis*.

DURING THE NINETY-FIRST ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION to be held in New York City, June 10-14, the Jefferson Medical College Alumni Association will hold its reunion banquet on Wednesday, June 12, at 7:00 o'clock P.M. at the Murray Hill Hotel on Park Avenue at 41st Street. Tickets are \$2.50 each. Requests for reservations may be addressed to Dr. Thomas F. Duhigg, Hotel Murray Hill, Park Avenue at 41st Street, New York City. If you do not make reservations—come anyway.

THE BIBB COUNTY MEDICAL SOCIETY met at Ridley Hall, Macon, May 7. Dr. O. R. Thompson and Dr. Evelyn Swilling discussed *Transverse Cervical Cesarean Section*.

DR. V. P. SYDENSTRICKER, Augusta, spoke before the Georgia Beta Chapter, Alpha Omega Alpha, Emory University, May 10 on *The Role of Vitamins in Nutritional Deficiency Diseases*.

OBITUARY

Dr. Lester Lance Lightner, Ideal; member; Southern College of Medicine and Surgery, Atlanta, 1883; died at his home on April 12, 1940, of heart disease. He was a native of Schley County. He was a prominent physician and had practiced medicine in Macon and adjoining counties for more than 25 years. Dr. Lightner had been a loyal member of the Macon County Medical Society and the Association for many years. Surviving him are three brothers, Dr. H. G. Lightner, Lexington, Ky.; Dr. J. T. Lightner, Columbus; and J. E. Lightner, Ideal; three sisters, Mrs. J. W. Nelson, Sr., Ideal; Miss Mary Lightner, Ideal; and Mrs. L. B. Brooks, Atlanta. Rev. W. W. Whaley, Oglethorpe, officiated at the funeral services conducted at the home.

Dr. Isaac Cuthbert Evans, Columbus; University of Alabama School of Medicine, University, Ala., 1899; aged 67; died on April 19, 1940, at the home of his daughter, Mrs. C. O. Walker. He had been in ill health for several months. He was a native of Seale, Ala. Dr. Evans practiced in Columbus and the surrounding community for 39 years. Dr. Evans served two terms as alderman of Columbus, one term as city physician, and two terms as county physician for Muscogee. Surviving him are one son, I. C. Evans, Jr.; two daughters, Mrs. C. O. Walker and Mrs. J. W. Coppock, Jr., all of Columbus. Funeral services were held at Striffler's chapel. Burial was in Linwood Cemetery.

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REMINISCENCES OF A GEORGIA PEDIATRICIAN

SAMUEL A. VISANSKA, M.D.
Atlanta

Childhood diseases and the problems of prophylaxis and feeding of infants and children were not regarded as a separate branch of study in the United States until the middle of the nineteenth century. Such pediatric instruction as students received after the medical schools had been organized was a by-product in the curriculum and was given by the professors in obstetrics and gynecology.

Prior to 1800 the rare mention made of infant and childhood illnesses showed pathetic ignorance on the part of doctors, as well as the general public, concerning their treatment and cure. Abraham Jacobi (1830-1919), who wrote on the subject of pediatrics, related the first case of hereditary syphilis observed in New England, which he found reported in John Winthrop's "History of New England," as follows:

"There fell out a loathsome disease at Boston which raised a scandal upon the town and country though without just cause. After delivery this mother of the baby had a sore breast and in order to relieve her, babies from other families were allowed to suckle the ailing breasts. About sixteen persons—men, women and children—were infected. There was no medical man in town who had skill in physic and surgery and there was not any in the country who had been practiced in that cure. (By the good providence of God at that very season there came by accident a young surgeon out of the West Indies who had had right experience in the cure of that disease. He took them in hand, and through the Lord's blessing he recovered them all in a short time)."

Diphtheria, the former dread disease of childhood, is recorded to have first appeared in New England in the seventeenth century.

Samuel Danforth, a graduate of Harvard in 1643, is the first to mention cynanche trachealis (diphtheria) or "bladder in the windpipe," as he termed it. He wrote of an epidemic in 1659 and says that of his twelve children, three were attacked by this disease. "It pleased God to take them all (all three) at once, even in one fortnight's time." When the epidemic ceased in 1662, the legislature of Connecticut declared a thanksgiving day.

One of the best early publications of the Colonial days was by Lionel Chalmers, M.D., of Charleston, S. C., entitled, "An Account of the Weather and Diseases (1776)." In his treatise he considers the disorders to which children are liable during hot weather, such as worms, convulsions, thrush, runnings from behind the ears, cutaneous disorders, the suffocation of catarrhal peripneumonia, nervous asthma or suffocation stridula, quinsies, angina and whooping cough.

The germs of pediatrics as a separate branch of medicine took form during the latter half of the nineteenth century. Its rapid strides in practice and organization came after 1900, however, reaching the level for real development and advancement in 1916.

Brennemann's "Practice of Pediatrics" cites the work of pioneers who made contributions to pediatric's early history.

Benjamin Waterhouse (1754-1846) was the first to introduce vaccination against smallpox in the United States. In 1796, the same year in which Jenner vaccinated his first patient, Waterhouse repeated the operation in Cambridge, Mass.

Abraham Jacobi (1830-1919) pioneered in the bedside teaching of pediatrics. His life was a long and illustrious one, and American pediatrics is particularly indebted to him.

Job Lewis Smith (1827-1896) with Jacobi, was one of the founders of pediatrics in America.

One of the leading pediatricists produced by the West is Isaac Arthur Abt, teacher, writer and editor. "Abt's History of Pediatrics," by Fielding H. Garrison, M.D., is an excellent book on this subject.

Among other important books on pediatrics is "Keating's Encyclopedia," first published in 1889 in four volumes and supplemented ten years later. It includes an array of contributions by the most distinguished pediatric teachers and thinkers in America at that time. A. Jacobi wrote the introduction; James Finlayson, of Glasgow, made a valuable contribution on diagnosis; Thomas M. Rotch, of Boston, wrote the chapter on infant feeding; W. B. Cheadle, of London, discussed rheumatism and acute and chronic endocarditis; Thomas Barlow described rickets and scurvy; William Osler contributed the chapter on congenital heart affections; L. Emmet Holt discussed diarrheal disorders, acute and chronic; and J. P. Crozer Griffith described diseases of the blood and the blood-making apparatus. Keating's treatise was for many years the standard reference book for the specialist in pediatrics as well as for the general practitioner in America.

Luther Emmet Holt (1855-1924) gave the impetus which resulted in specialization of pediatrics and the medical care of infants and children as we know it today. His textbook on the diseases and feeding of children, first published in 1897, opened the eyes of the medical world to this need for specialized study and inspired medical students to follow this field.

As early as 1858, study was made in the treatment of diphtheria, which was a forerunner of our present methods of controlling this disease. Bouchuts offered the idea of tubage in treating diphtheria at this time. Rebuffs encountered by this theory caused the research to be neglected until around 1880, when Joseph O'Dwyer (1841-1898) began to think of the possibilities of intubation. It was through his labors that intubation of the larynx became a permanent rational procedure in pediatrics. In 1885 he began publishing reports of in-

tubation in croup and chronic laryngeal stenosis, and by 1887 his claims were recorded by the Medical Society of the State of New York and the New York Academy of Medicine. The story is that he watched his little granddaughter choke to death with laryngeal diphtheria. He determined to try to find an aid to children with this disease. Going to the morgue, he got models of the larynx of all ages of children; from these he made gold tubes to fit each size larynx, instruments for inserting and withdrawing the tubes and a chart by which one could select the correct size tube. So careful was O'Dwyer's research and so perfect was his work that in the years to follow whenever a change was made in the tubes, in an effort to improve them, it was discovered that was a model he had made and discarded while working toward the tube he finally selected to use. The only change made in those tubes is that while his were all gold, now they are rubber on the outside, with gold lining.

In 1892 the crusade for procuring a pure raw milk supply for infants was started. Dr. Henry Coit, of Newark, N. J., was the leader. At that time he proposed a plan by which milk was produced and handled under the supervision of a medical commission. This was "certified milk" and the controlling body became the Medical Milk Commission. The first commission in Essex County, New Jersey, was rapidly followed by commissions throughout the United States and all were bound together through a national association. Some of the milk commissions, in addition, organized milk depots for the purpose of furnishing modified milk formulas at cost or free to the indigent.

Georgia's early pediatric history is summarized by Brennemann as follows:

"Prior to 1900 the practice of pediatrics as a specialty in Georgia was practically non-existent. With the beginning of this century, however, interest in pediatrics spread quite rapidly as the state medical universities started to devote more time to this specialized field. William Zellars Holliday, the State's first professor of pediatrics, began to give a course at the University of Georgia School of Medicine,

which consisted of two lectures a week. At the Emory University Medical School in Atlanta the department of pediatrics was given very little attention until about 1903. At that time Charles E. Boynton (1872) was appointed lecturer on diseases of children. When the Atlanta College of Physicians and Surgeons combined with the Atlanta School of Medicine under the name of the Atlanta Medical College, a joint professorship of pediatrics was created under Charles E. Boynton and L. B. Clarke (1868-1922)."

According to Brennemann, the writer, Samuel A. Visanska (1859—), now retired, was the first physician in Georgia to confine his work exclusively to pediatric practice. After obtaining his degree at the Medical College of South Carolina in 1894, he entered general practice in Atlanta and, in 1900, became the State's first pediatricist. He is presumably the originator of the square diaper arrangement which was described in 1915.

First to limit his practice to pediatrics in Augusta was William A. Mulherin (1872) one of the State's outstanding pediatricists today. He was largely instrumental in establishing the children's hospital in Augusta, built in 1910. The only children's hospital in Atlanta is the Henrietta Eggleston Memorial Hospital, opened in 1928; capacity 40 free and 8 private beds.

A number of contributions to pediatric literature have been written by Georgia specialists, among them being: "Description of Sick-cell Anemia," by V. P. Sydenstricker and W. A. Mulherin; "A Description of Xanthochromia in the Spinal Fluid of the Newborn," by M. Hines Roberts; "A Description of the Use of Neoarsphenamine and Mercurosal in the Treatment of Syphilis in Children Used Intraperitoneally," by Joseph Yampolsky; "Data on Newborn Syphilitics," by J. R. McCord and Joseph Yampolsky; and "The Use of the Rectangular Folding of Diapers," by Samuel A. Visanska.

History of Pediatrics in Atlanta

As already stated, Drs. Clarke, Boynton, and I were considered the pioneer pediatricians in Atlanta. Dr. Lee Ben Clarke was born in New Zealand March 25, 1868,

and at an early age his family established residence in Marion, S. C., where he grew to young manhood, later studying pharmacy. While employed as a pharmacist in Charleston, S. C., he studied medicine at the Charleston School of Medicine, graduating with honors. In 1898 he moved to Atlanta to engage in the practice of medicine. Within a few years he singled out the then practically unknown specialty of pediatrics. During the succeeding years he was professor of pediatrics and materia medica at the Atlanta Medical College and subsequently held the chair of pediatrics at Emory University School of Medicine and of the Atlanta Graduate Medical School. He was honored with the presidency of the Atlanta Pediatric Society which he helped to found and of the Georgia Pediatric Society, later becoming president of the Fulton County Medical Society in 1911. It was largely through his efforts, prompted by a keen desire to further the interests of, and reduce the mortality in early childhood, that the milk commission of Fulton County Medical Society was established. He was elected to fellowship in the American College of Physicians in 1921 and to membership in the American Congress of Internal Medicine in the same year.

Among his outstanding achievements was the distinction of being one of the first in the world to foster the study of the unknown field of glandular deficiencies of childhood and his writings included monographs on his original work and excellent results in the treatment by endocrine extracts in cases of hormone deficiencies. This method of treatment was entirely original on his part and without collaboration, but enjoyed universal confirmation. At the age of 54 his usefulness was cut short by death which occurred on August 23, 1922.

Dr. Chas. E. Boynton, born in Atlanta, April 21, 1872, completed the grammar and high schools of Atlanta, and received an A.B. degree at Princeton in 1893. His father, Chas. E. Boynton, was one of the founders of Chamberlin and Boynton Co., later Chamberlin, Johnson and DuBosc Co., the leading dry goods firm of Atlanta at that time.

During his course at Princeton, Boynton

became very much interested in botany, biology, histology and allied subjects. He decided to be the first of his family to enter the field of medicine.

Upon entering the College of Physicians and Surgeons, New York, now the Medical Department of Columbia University, he had an understanding with his mother that he would finish the first year and if, at that time, he decided he did not like medicine, that he would stop and not be considered a quitter. After a few months in the medical school, his enthusiasm steadily rising, there was no question in his mind that he had chosen wisely. This enthusiasm for everything medical has continued uppermost in his mind up to the present time.

Receiving his M.D. degree from the College of Physicians and Surgeons in 1896, a post-graduate year followed, and in 1897, through competitive examination, he received first place in Bellevue Hospital, New York City, and chose the First Medical Division. Following this he passed an examination for entrance into the United States Army during the Spanish American War and was assigned a position as contract surgeon, on the Hospital Ship Missouri, which was serving as a floating hospital in Cuban waters before there was any land hospital. When the ship was filled with sick soldiers they were transported to hospitals in the United States, the Missouri then returning for another load. An amusing fact was that Dr. Boynton was in charge medically of the ship when out of port, as all other members of the staff were confined to their rooms because of seasickness.

Having contracted tropical malaria in a severe form, he left the service in 1899, returning to Atlanta. On Jan. 4, 1900, he opened offices in Atlanta, for the practice of medicine.

In 1901 Dr. Robinson, who had been teaching the diseases of children as a minor branch under Dr. Virgil O. Hardon who held the Chair of Diseases of Women and Children, died. Dr. Boynton was appointed lecturer of diseases of children as a separate branch in the fall of 1901. He reorganized it, having two hours a week with the combined senior and junior classes amounting to about 250 men. At that time

a large part of the course was didactic as the clinics were not organized as they are now. Clinical material was worked in during the regular lecture hours, the cases being demonstrated to the entire class.

About 1903, Dr. Boynton was elected Professor of Pediatrics under the Department of Medicine in the Atlanta College of Physicians and Surgeons.

Wesley Memorial Hospital, located on the corner of Courtland and Auburn Avenue, was founded in 1903. It opened formally in 1905 with Dr. Boynton as visiting pediatrician. Later the hospital moved to its present location at Emory University, Georgia.

In 1913 the Atlanta College of Physicians and Surgeons and the Atlanta School of Medicine consolidated to form the Atlanta Medical College, the faculties of the two schools combining; Dr. L. B. Clarke sharing the chair of pediatrics with Dr. Boynton. After two years (1915) the Atlanta Medical College became the Emory University School of Medicine, Emory University. The pediatric department then consisted of two professors and six assistants.

In 1919 Dr. Boynton resigned to devote his entire time to his private practice. In addition to teaching, he contributed articles to the medical journals from time to time.

In 1911 Dr. Boynton spent six weeks in Dr. Chas. Gilmore Kerley's office in New York City, Dr. Kerley having given his regular assistant a vacation, in order to allow Dr. Boynton to come in during that time. In 1915 he attended the post-graduate pediatric course at Harvard Medical School. In 1896 he was one of the first men to pass the examination given by the recently formed Regular Board of Medical Examiners of the State of Georgia. He holds their License Certificate No. 2. He joined the Fulton County Medical Society in 1900, at which time their regular attendance numbered between six and ten men. He is a member of the Medical Association of Georgia, Fellow of the American Medical Association, member of the Southern Medical Association, was elected Fellow of the American College of Physicians in 1921, became a Fellow of the American Academy of Pediatrics soon after its organization, and

was declared a Licentiate of the American Board of Pediatrics in 1934, holding Certificate No. 145. He was appointed a member of the Georgia Governing Committee of the Gorgas Memorial Institute of Tropical and Preventive Medicine. He was interested in and held the position of medical director and vice-president of the Good Samaritan Clinic for the study of Diseases of the Ductless Glands. This is the only strictly charity organization of its kind. He is consulting pediatrician at Grady Hospital, St. Joseph's Infirmary and Piedmont Hospital.

I was born on my grandfather's plantation near Abbeville, S. C., May 5, 1869.

I attended the public schools, and at an early age entered the drug store of Speed and Neuffer; a year later went to Charleston to obtain more practical experience, and then attended the Philadelphia College of Pharmacy, graduating in the class of 1890. My professors were Maisch, Remington, Sadtler, and Trimble, all outstanding in their profession. Each wrote his textbook. The one written by Remington on pharmacy was and is now used as a textbook by the majority of colleges of pharmacy in the United States. Students from all over the world came to learn from these noted teachers, and my knowledge gained from these men has been a wonderful help toward my successful career.

After returning home I decided to enter the South Carolina Medical College where I graduated with honor and served as intern at the City Hospital, Charleston. Looking around for a suitable location, I selected Atlanta for two reasons: first, it was known as a progressive city; second, it was on the new Seaboard Air Line Railroad running through Abbeville, a distance of about 138 miles. I came here in the spring of 1895, soon after the opening of the Southern States Cotton Exposition. The State Board examination for doctors was held about this time, and a day later I received the cheering news that I passed. Being a "stranger in a strange land," it was difficult to know which way to turn or to whom I might go to seek advice. I happened to wander into Benjamin's Drug Store, met the proprietor and began to question him

as to a suitable location for an office. I learned that the majority of the doctors had offices over drug stores, but quite a number of the married ones had offices at their homes. The only available office at that time was over Benjamin's Drug Store, a small room in the rear of the other offices which housed about eight doctors. A speaking tube ran from the store to the doctors' offices in front and all phone and office calls were made that way, saving the doctors telephone bills. It was the custom then for people to call the drug store for a doctor and I had to depend on calls in case the other doctors were out—quite a slow way to begin the practice of medicine. I accepted all calls, whether or not sure of compensation, believing in the idea that if I were successful, someone able to pay might hear of it and give me a call. Besides, I had to learn the streets which were never laid out for a city the size of Atlanta today. I found the doctors whom I met a queer lot and not too friendly, each one "a law unto himself." I had to learn the names of the few specialists at that time in case I needed a consultant. There seemed to be quite some jealousy among the doctors which was new to a beginner. In time my practice grew little by little. Those were the "horse and buggy" days, but it was a few years before I was able to own a horse and buggy, having to depend on walking and street cars during the day and cabs for night calls. The cabs were stationed near Durand's Restaurant at the old Union Depot in the center of the city; the railroad dividing the city into the north and south sides. I did what was then termed general practice, and had no idea of becoming a "baby doctor," as we were branded later in a few years. I was proud to own a horse and buggy, and practice was limited almost entirely to the south side. I gradually drifted into pediatrics, giving up general practice about 1900, and in a short time my practice was extended all over Atlanta and suburbs. Consultations in and out of the city were frequent.

I remember a young doctor, redheaded and freckle-faced, whose hair stood up on his head like a porcupine and he possessed one of those two-inch moustaches,

very popular in those days. They stood out like hog bristles. He was a likeable chap and in love with a "gal" as he called his sweetheart, and would often tell me how much he loved her. One afternoon, after office hours, the doctor got into his buggy, tried to twist his moustache in shape, but it wouldn't twist, and much to my surprise and amusement he lifted the whip out of the socket, took the tip end and twisted first one side then the other of his moustache. Where was Ripley?

A few physicians did not seem to relish the pioneers in pediatrics. An instance was, or rather seemed to me, when I read a paper before the Medical Society on the treatment of bronchopneumonia. Among other things, I gave my experience with tincture of digitalis, which had never been used before for this condition. I explained my reasons and also advised the use of oxygen at a much earlier stage than was in use at that time. When the paper was opened for discussion a couple of the doctors present talked about veratrum, which was entirely out of order but the next doctor to discuss the paper said, "Mr. President and gentlemen, I have been practicing medicine over twenty-five years and this is the first time in my life that I have heard of tincture of digitalis being used in an acute condition of the heart." I felt quite crushed at this outburst of oratory and criticism as I was comparatively a new member of the Society. I had to think quickly whether I would attempt to close the discussion. I could feel a chilly sensation running up and down my spine, but a determination came over me and in closing the discussion I said, "Mr. President and members, I wish to thank the gentlemen for their discussion. When I read a paper and if I find anything new or worthwhile, I feel it my duty to give it to the profession, and in that way we learn from each other, but I never tell anyone they must use my suggestions or experimental ideas." Then waving my hand over the audience, I said, with much force, "But there is one thing I want all of you to remember; if some of you will take down your textbooks from the shelf and dust off the dust and cobwebs and read them, there will be fewer of your patients out at Oakland Cemetery." The

applause that followed was quite embarrassing at that time, but it did make a fellow feel better.

The prevailing fees at that time were one dollar for an office visit and two dollars to the residence. Many times we were never compensated. Later on we could correct this to a certain extent.

In 1906 I attended the New York Post-graduate School of Medicine, visited the various children's hospitals which were very interesting and found their results as a whole no better than ours. I brought home a baby scale, basket kind, and O'Dwyer's intubation set, about the only one in the city at that time.

When antitoxin, for the treatment of diphtheria, was brought to Atlanta, I was among the first to use it as I had read all literature available on the subject. The firm of H. K. Mulford Company was the first in the United States to produce commercial diphtheria antitoxin supplied in a market package with a guaranteed unit content, was enough to further my confidence. From first case to the last, when I had to retire some years ago on account of deafness, my results were nothing short of miraculous. Many physicians, through fear or lack of understanding, were opposed to the use of antitoxin at that time; news reports in the papers condemned the use of this wonderful product; said it had produced death in some instances, and abscesses were frequent. They were ignorant of the fact that it was the toxins and anaphylactic shock and not the antitoxin that caused death. As I had practically 100 per cent cures, and also was free from abscesses, I paid little if any attention to the bl'ast. In a short time many physicians were turning their cases over to me and I often carried the doctors out to visit these cases before and after using antitoxin. Later on the very doctors who were so opposed to the use of this wonderful discovery were now writing articles on the use of antitoxin in the treatment of diphtheria. I did not select my cases, neither did I have any secrets as to treatment. Even my tube cases in treating the laryngeal type were equally successful.

One case I shall report was very interesting.

Some years ago, Dr. C. M. Curtis called me over the phone stating a child he was treating at the Georgia Military Academy, College Park, was quite ill with croup. Upon further questioning I advised the doctor that I had best bring antitoxin and an intubation set if needed. When I arrived I was quickly ushered into a hallway and then to the entrance of room where the patient was located. As soon as I entered, with one glance at the respiration I knew I was up against it. The pulse was scarcely preceptible, a run-away pulse, breathing was labored and the child cyanotic. I remained in the room only a few minutes before the doctor and I went out to consult. I informed the doctor that there was no doubt the child suffered from diphtheritic laryngitis, but that the pulse being so unusually weak, he might pass out upon inserting the tube. However, if the parents were willing to share the responsibility with me I would proceed and do all in my power to save the child.

He said the father was an "army man" and called him in. I repeated my explanation and the Captain said, "Doctor, I can see that the child cannot live in this condition; we will take a chance." I praised him for the sensible stand taken. I entered the patient's room, injected strychnine and whiskey, opened all windows and then with my index finger, first cleared away a lot of ropy mucus and inserted the tube; then there was an expiratory movement expelling mucus through tube, a deep inspiration and after that all was well. After the patient had rested a short time, I gave 5000 units of antitoxin. I went outside the room and found Colonel J. C. Woodward, with a most distressed look, and in a sad tone, he asked, "Doctor, will I have to close the school?" There was a man with the responsibility of more than a hundred boys from everywhere, his boys, but then the responsibility shifted to me. I said, "Colonel, you have an isolation hospital outside, we will move the patient there, put on two competent nurses, isolate the father until we get two negative cultures from his nose and throat." As soon as the nurse arrived and made the room ready, we moved in. The next morning another 5000 units of antitoxin was given, oxygen was also administered for a few days. A third dose of antitoxin was given. About the sixth day the patient had a severe coughing spell, which brought up the tube and loose membrane, but the tube was swallowed, which frightened the nurse very much. I allayed her anxiety by telling her there was no danger; to watch all stools and when the tube passed to disinfect it and put it aside for me as I did not care to break my set. In a few days the child was dismissed, cured, and all were very happy. Now, the reason I asked the parent to share the responsibility in this case was that on very slight exertion in passing the tube the little one can pass out and the doctor is reported to have

"killed the baby." The next similar case taken in time, the parents having heard of this case would refuse, and the child might die of neglect.

Antitoxin in those days was five times the quantity and contained more protein, the tissues at the site of injection would bulge out like a small egg and urticaria was present in many cases. Later, the type of container for antitoxin was changed from the bottle package to a syringe with sterile needle. I found the needles defective in three ways; they were too short to carry the amount then given, the bore was not large enough, causing in some instances a damming back of the contents with loss of some of the fluid, and the needles were not sharp enough. When I reported these facts to the H. K. Mulford Company the next batch was "just rite."

The Mulford Laboratories claim the priority in the production of super-concentrated diphtheria antitoxin, also the first commercial production of diphtheria toxoid (plain and diphtheria toxoid alum precipitated). In 1894 the Mulford Biological Laboratories were established by the company for the first commercial production of diphtheria antitoxin in the United States. When this company combined with the makers of the finest pharmaceutical products in 1930, to become Sharpe and Dohme, Incorporated, it was like welding together two pieces of purest gold. The writer has paid two visits to these laboratories, situated on a 300 acre tract at Glenolden, Pennsylvania.

I was the first pediatrician to lecture to a training school of nurses at St. Joseph's Infirmary, 1910-11, was ill after that and later lectured at Davis-Fischer Sanatorium, now Crawford Long, and the Atlanta Hospital.

Atlanta's Milk Supply

Back in the horse and buggy days, Atlanta, like other southern cities, lacked a good milk supply. We did not then realize the cause of many diseases and, therefore, the number of so-called "summer complaints" were appalling, with a large death rate. As time rocked along milk inspection was introduced with bacterial counts made by a city bacteriologist, laws were passed to protect the public from impure milk, but our ideas were then too individualistic.

During the year 1913 complaints through the press brought to the attention of the public that the milk supply was not what it should be. At that time I was a new member of the Chamber of Commerce. Mr. Wilmer L. Moore, the president, had a conference with me and requested that I take the chairmanship of the milk committee of the organization, stating that the Chamber of Commerce had never had a committee of this kind. I hesitated at first but finally consented. Serving with me were Ivan Allen, Beaumont Davison, Oscar Elsas and Dr. Michael Hoke. We got in touch with various cities to find out about their milk supply. We had a few public meetings to inform the public that they must assist the Board of Health in every way possible. We visited several dairies and later sent a report with recommendations to the directors of the Chamber of Commerce.

From report of secretary for 1913, called meeting of directors, Chamber of Commerce, Wilmer L. Moore, president. Present by invitation, Dr. S. A. Visanska, chairman on milk, and Beaumont Davison, president of the Retail Merchants Association. Dr. Visanska submitted verbally the report of the committee on milk supply, recommending that a Walker-Gordon Laboratory be established in Atlanta in connection with a local firm, by securing pledges of patrons to the extent of two hundred quarts of milk per day, at 18c per quart. Also, that Dr. Charles E. North be brought here with two experts to investigate the milk supply at an expense estimated at five to six hundred dollars. At the conclusion of Dr. Visanska's report, and upon the suggestion of the President, Mr. Allen moved the matter be referred to the executive committee and the motion was carried. A report of the secretary for 1913, showing work accomplished during past year on milk supply. A committee on milk supply, composed of Dr. S. A. Visanska, chairman; Ivan Allen, Oscar Elsas, Beaumont Davison, and Dr. Michael Hoke, brought in a milk report which was submitted to the committee chairman at a luncheon at the Piedmont Hotel on the first of May. This report was printed in pamphlet form and distributed among the members.

Later an expert from the U. S. Public Health Service was brought here to make a survey, and after that there was a gradual improvement in our milk supply. There are too many grade A dairies—217 in number—for the number of inspectors allowed. (There is quite a lot of overlapping by the

dairymen and I would suggest they get together for their mutual good.) We have fourteen pasteurization plants—veterinary examination. All cows must be free of tuberculosis. Milkers are examined for typhoid and are given two physical examinations every year. Our milk is shipped just a few miles from the city, the most distant 28 miles. In the eastern cities milk is often shipped over 500 miles. Number of helpers in laboratory, 2; inspectors, 5, three barn inspectors; two men who collect samples and inspect pasteurizing plants. Milk shipped to pasteurizing plants, maximum distance 140 miles.

Certified Milk

We have six certified dairies which come under the rules and regulations made by the American Association of Medical Milk Commission, Inc., with National headquarters, 1265 Broadway, New York City. The Atlanta Certified Milk Commission is appointed by the President of the Fulton County Medical Society.

Formerly we only recognized bovine tuberculosis and typhoid fever, but now we might add septic sore throat, diphtheria, scarlet fever, and I firmly believe that influenza and poliomyelitis are conveyed by milk; also brucellosis and dysentery. You can readily comprehend the importance of having strict rules and regulations.

Certified milk shall contain not more than 10,000 bacteria per cubic centimeter, as determined by the examination of original bottles at the time it is delivered to the consumer. Certified milk to be pasteurized shall contain not more than 10,000 bacteria per cubic centimeter before pasteurization in samples taken at the plant and not more than 500 bacteria per cubic centimeter after pasteurization and as determined by the examination of original bottles at the time of delivery to the consumer. Unless, otherwise indicated on the label, it shall contain an average of 4 per cent butter fat and a minimum of 3.5 per cent for individual samples. Number of inspections of all who work at the dairies, (especially the milkers by the doctors and examinations of cows by the veterinary) are frequent enough to maintain these high standards.

It has occurred to me that to further

prevent the entrance of harmful bacteria in milk, each milker should wear a nose and mouth mask (same as surgeons) in order to prevent droplets from his nose and throat reaching the milk in the pail. A few dairies have electric milkers; even so, there is a chance of contamination. The idea is, if the milker coughs or sneezes it is caught by the mask. I recommend that the mask be worn by individuals wherever there are contagious diseases, especially influenza, diphtheria, scarlet fever, septic sore throat, poliomyelitis, whooping cough, etc. This idea has been approved by our best physicians.

Atlanta also has an Infant Formula Laboratory at 34 Fifth Street, N. W., for preparing babies' milk as prescribed by physicians.

The writer would like to see the milk control in Georgia changed.

Under Brucellosis (Undulant Fever), by A. Park McGinty, M.D., and W. Elizabeth Gambrell, Ph.D.; *Fulton County Medical Society Bulletin*, Aug. 3, 1939, page 7—"Until a specific therapy for this disease has been established, greater care should be exercised to prevent the infection of more individuals. After excluding a small group of persons exposed to an occupational hazard, the majority of patients probably contract brucellosis from the ingestion of raw infected milk. During the past five years a survey of 3,857 dairy herds in Georgia revealed that 46.5 per cent of these herds were infected with contagious abortion of cattle (brucellosis) and 6.9 per cent of all the cattle tested were reactors. Eradication of all domestic animals infected with *Brucella* would be ideal, but unfortunately impossible in the near future. Therefore, as long as dairy herds are infected with brucellosis, all milk consumed should be pasteurized. Proper pasteurization kills *brucella* in milk. Until pasteurization of milk is compulsory we should insist that our patients consume pasteurized or certified milk exclusively." This condition has been improved.

To the best of my information the Department of Agriculture was set up by the Legislature in the year 1874 and the law is to be found in the acts of that year, page 6, chapter 1. In chapter 111, page 83, in the

acts of 1906, and on page 80 of the acts of 1908, the law setting up the Chief Food and Drug Inspector will be found.

Since milk has been primarily a farm product and since all farm produce has been incorporated in the laws of the Department of Agriculture, I feel that the legislators of that time were justified in placing milk under the supervision of the Department of Agriculture. It is my information that since that time the production and supervision of milk for public consumption has become a direct obligation of the State Veterinarian. In the past, laws have been set up to insure that the public receive their milk which meets the standards as a food; i.e., the milk had to contain a certain amount of butter fat, etc., before it could be sold on the market to the general public. This law, of course, was designed to prevent watering of milk or other measures which would dilute or adulterate it so that its food value would not be up to normal.

During the past 25 or 30 years experience has taught medical men and public health workers that milk may be one of the chief means of dissemination of disease. While it is most necessary that milk remains to be a good food, experience has taught us that it is equally, if not more important, that milk be clean. The first thing to bring this fact to our attention was the transmission of bovine tuberculosis to children. Undoubtedly, milk has also been the means of transmission of human tuberculosis. Milk not properly produced, not only may be infected with, but may serve as an excellent medium in which the germs of typhoid fever, dysentery, diphtheria, septic sore throat, scarlet fever, tuberculosis, undulant fever, and other germs may rapidly multiply.

For these reasons the proper production of milk has come to be a chief public health problem. In many states the supervision of the milk supplies is a direct responsibility of the state and local health departments. In Georgia, however, this function has remained a duty of the Department of Agriculture. Some of the milk which is produced in Georgia is as fine as can be produced anywhere in the world. People re-

siding in rural districts are also entitled to good milk, free from contamination.

I should like to say that the remarks which I have made here are not in any way to be construed as a criticism of the Department of Agriculture, since it is my sincere belief that the men who are responsible for this service have done the best that possibly could be done under the circumstances, with the funds which have been made available by the Legislature for this purpose. I am personally convinced that they have been sincere and conscientious in the performance of their official duties. Georgia is the only state with this set-up. **SAFE MILK BROADCAST**, by Miss Jane Van de Vrede, R.N.:

We honor men of science who have blazed the trails of health, no matter in what age they lived; but we do not always remember those of our own generation who have increased our welfare and happiness. Such a man is Dr. S. A. Visanska, pediatrician, pharmacist and author. Dr. Visanska came to Atlanta thirty-five years ago fresh from his internship to establish his medical practice. He found he had a special gift with children and became very much interested in their problems and welfare.

Settlement work for the mill people had been instituted by Miss Rose Lowe. Dr. Visanska offered his services to establish a baby clinic, the first of its kind in Atlanta, and gave freely of his time to charity and to civic work in the city. He was the first physician to become interested in the Home for Incurables. The cornerstone of the new A. G. Rhodes Memorial Home for Incurables bears grateful testimony to his work there. He saw at once the need of a safer milk supply and enlisted the cooperation of the Chamber of Commerce. He was appointed chairman of a milk committee and held public meetings to explain the value of safe milk. His audiences were enthusiastic and numbered as high as five hundred persons at a meeting. This resulted in better ordinances and the institution of pasteurization, and to the appointment of a medical Milk Commission by the Fulton County Medical Society for the control of certified milk.

His book to mothers—"Better Babies" is filled with common sense advice. He states that "all milk must be closely guarded and constantly supervised to prevent disease, and all community forces should be interested to see that the milk supply is kept safe." "Only in this way," says Dr. Visanska, "can infant mortality be greatly reduced and the public health improved. I asked Dr. Visanska if milk could be safely pasteurized at home by amateur methods." "No" said he—"it cannot, for two reasons. First, because before the milk reaches your home the bacteria

have multiplied so greatly as to change the chemical quality of the milk by their growth. Pasteurization could not then change it back to its former purity. Pasteurization should be done as soon after milking as the milk can be sent to the pasteurizing plant; Secondly, said Dr. Visanska, "thermometers are easily misread, the importance of time, the exactness of the temperature and the rapid cooling process will not be emphasized regularly and exactly every day, by the amateur. Some of the vitamins will be destroyed, too. It is not safe to rely on unscientific methods of home pasteurization. You can safely rely on that of dairies which have the supervision of Health Authorities." Thank you. (Radio address over Radio Station WGST, Friday, 7:15 p.m., June 10, 1932.)

Baby Health Centers

The Baby Health Centers, for the examination of well babies, were organized in 1920. They were sponsored by the Woman's Club and were in charge of Dr. Lydia De Vil Biss of the United States Public Health Service. They ran through the summer only. The first ones were held at the Gray Clinic, colored division of the Grady Hospital, and were for white and colored. Dr. J. T. Martin was one of the doctors in charge of the white clinic. They ran about six months and continued for a while after the opening of a center at Grant Park School in the fall of 1920. Dr. Claude Almand was in charge of the Grant Park Center, also a center at the Fulton Bag and Cotton Mills. A Baby Health Center was also organized at Calvary Methodist Church, September, 1920, and officially opened in October, 1920. The attendance increased so rapidly that the center was moved to Lucile Avenue School, September, 1921, where larger space was available—later named J. C. Harris Center. Dr. S. A. Visanska was in charge of this clinic, volunteering his services from September, 1920, to September, 1928. Dr. Bolling T. Gay conducted the J. C. Harris Center from 1928 to 1929. Dr. Sam W. Perry conducted the center from September, 1929, to 1937, and Dr. C. Dixon Fowler from February, 1937, to present date.

On Jan. 11, 1922, Pryor Street Center was organized. Dr. G. Holmes Cheney was in charge. Mrs. Luther Medlock was the first chairman. In 1924 there was a celebration of the second anniversary with Mrs. Baldwin as chairman. Other centers organized around this time were Adair School, Capitol View School, Luckie Street School, Fair Street School, Forrest Avenue School, J. L. Key School, Highland School, East Lake School, English Avenue School, Kirkwood School, Whiteford School, Slaton School, Faith School, Kate P. Dawson Day Nursery, and the Good Will Center. In 1922 Dr. Cheney was placed in charge of most of the Baby Health Centers. Centers opened at a later date were Exposition Cotton Mills, Andrew Stewart Nur-

sery, Jerome Jones and Sylvan Hills, and Home Park School.

The Kate P. Dawson Day Nursery at 665 Wells St., S. W., was moved to Lee Street School. The East Lake Center was moved to Jerome Jones School. The Highland School Center was organized in 1922 and moved to Forrest Avenue School in 1925. The Baby Health Center at St. Paul's Church was moved to Fair Street School.

Dr. Cheney had charge of the Baby Health Centers from 1922 to 1924. The Baby Health Centers were closed for one month in 1924 after the resignation of Dr. Cheney, and Dr. Louis Hoppe took over the centers when they were reopened. In 1927 Dr. H. L. Treusch volunteered his services at the Exposition Cotton Mills. In 1930 Dr. Lee Bivings was employed to take Dr. Hoppe's place, and is in charge of the centers at present.

The Good Will Center at 816 Pelham Street was formerly held at English Avenue School.

Dr. T. I. Willingham conducted the center at Grant Park School for several years beginning in 1930. Prior to 1924 most of the work at Baby Health Centers was done by volunteers, most doctors are paid for their services at present.

NUMBER EXAMINED*

	<i>Normal</i>	<i>Abnormal</i>
December record 1926 to 1927	1065	557
December 1928	1143	616
December 1929	1478	568
December 1930	1030	568
December 1935	2040	1256
December 1937	2076	1326
December 1938	2131	1486

Employed for this work: Fourteen white nurses—all have two and three Baby Health Centers in different schools besides many other duties.

* (Compiled by Lillian Alexander Austin, R.N., Director Public Health Nursing, City Health Department, Atlanta, Georgia, 1939).

A Baby Health Center for the examination of well colored babies was opened at the Urban League Headquarters in the Herndon Building in March, 1927. The clinic was sponsored and equipped by the Urban League. Nine hundred dollars was appropriated by the City Finance Committee for this work for the year 1927. This fund was matched through the State Board of Health. (Sheppard-Towner Fund). Transportation for Nurse Sadie Powell, colored, was furnished by the Urban League. This work was taken over by the Health Department in 1927. In September, 1928, Nurse Sadie Powell resigned and Nurse Frances Belcher was employed. This center is now located at 115 Courtland Street, N. E. This building is used as a Day Nursery. A corps of colored doctors volunteer their services for the examination of these children twice a week. Some of the doctors who have

assisted are H. R. Butler, Jr., M. A. Thomas, H. Ward Warner, and C. W. Wingfield. Office space is furnished by the Colored Congregational Church.

Dental Clinics in Atlanta

Closely allied with the medical public health program to produce for the State well born and correctly nurtured babies, and healthy children, is the public health work in dentistry which, though in its infancy as a statewide program, has progressed rapidly during the past five years through the concerted efforts of all health and welfare organizations and the state's dentists.

The work was pioneered in Atlanta, in 1921, through the vision of Atlanta's Superintendent of Schools, Willis A. Sutton, and the generosity of an Atlanta citizen, Cator Woolford.

An experimental program was first carried on in one school. As a result of its success, a plan for city wide school dental examinations, a city dental clinic and requirement of dental certificates from school children was presented to the dentists of Atlanta, her doctors, social service groups and the Parent-Teacher Association.

The purpose of the original experiment was to determine relationship between mouth health and attendance and scholarship in schools. A dentist, a hygienist, a visiting nurse and teacher were employed for this experiment. Each child's teeth, throughout the entire school, were put in good condition, beginning with the kindergarten and going through all the grades. Records were kept and compared with an equal period of time during the year preceding the experiment. Attendance improved around 15 per cent. Failure to pass was reduced from 20 to 6 per cent. Children gained in weight, improved in appearance and morale. These facts and their import in dollars and cents to the taxpayers and the future of the city were presented to the civic groups. At the end of five years, practically every school was enlisted in this work. Now in Atlanta, every school child must present a dental certificate, certifying that his or her teeth are in A-1 condition at the beginning of each term. If the child's parents cannot afford to have the necessary dental work done, he goes to Atlanta's dental clinic, in the City Hall. This clinic, with the aid of voluntary services of private dentists, attempts to care for the dental needs of the city's indigent, although lack of funds limits activity.

Atlanta school children are examined at the schools each year. This is required regardless of whether he has his good teeth certificate or not. Kindergarten children are also examined. Forty thousand children were examined last year. If the visiting dentist, Dr. W. Vance Jackson, discovers a need for dental work, the child is

referred to his private dentist, or to the clinic if he is indigent.

The DeLos L. Hill, Jr., Memorial Dental Clinic for Children

This clinic, officially named as above, in honor of the only son of Dr. and Mrs. DeLos L. Hill, who died at the age of eleven years, had its inception on Sept. 25, 1931, when Mrs. DeLos L. Hill, widow of the late Dr. DeLos L. Hill, formerly a member of the Board of Trustees and the faculty of the Atlanta-Southern Dental College, presented the college with a check for \$50,000 for this purpose. Under the will of Dr. Hill, his estate, upon the death of Mrs. Hill, is to go to the college for the establishment and maintenance of this clinic. Mrs. Hill, however, desiring to see the clinic in operation during her own lifetime, generously contributed this \$50,000 from her own funds, toward its establishment.

The first director of the Hill Clinic was Dr. Walter T. McFall. He served from 1934 to 1936. The opening of the clinic carried with it the establishment of a new department in the Atlanta-Southern Dental College—namely, the teaching of "Dentistry for Children." During Dr. McFall's directorship the clinic carried out its work in chairs segregated for the purpose in the main dental infirmary of the school.

On Oct. 7, 1937, the Children's Clinic moved into its new quarters, consisting of an operating room, gas extraction room, and the Director's office, physically separate from the school clinic. A formal dedication took place on that date. The establishment and equipment of this new and enlarged Children's Clinic was made possible through an additional gift of \$5,000 from Mrs. Hill's personal funds. Although the Hill Clinic now occupies separate rooms in the college building, it always has been operated as an activity of the Atlanta-Southern Dental College, under the direction and supervision of the Board of Trustees of the College.

At the time of the dedication of the new Hill Clinic, Mrs. Hill said in her dedicatory speech: "For both the blessings and the benefits that have come and will come to little children through our clinic and through this broader field of dental education for our students, I am very happy today."

Dr. John C. Brauer was Director of the Hill Clinic at this period. He served from 1936 to 1938. The present Director, Dr. Howard H. Burkart, became head of the clinic in 1938.

The present Hill Clinic is equipped with nine "Junior Chairs," with complete and modern units. All kinds of dental work for children are done in this clinic. Children up to the age of twelve who are residents of Fulton, DeKalb and Cobb counties are admissible for treatment in the clinic, provided the parental income does not exceed the eligibility restrictions. During the last school term of 1938-1939, 1,235 children

were given dental treatment in the Hill Clinic.

A bronze tablet bearing the likeness of DeLos L. Hill, Junior, hangs on the wall of the clinic, along with photographs of his parents, Dr. and Mrs. Hill. (Compiled by Dr. Anderson M. Scruggs, Atlanta, Georgia.)

First Pediatric Clinic in Atlanta

Having never kept a record of my connection with the different activities with which I served, I have been forced to call upon some of those with whom I worked for some of the information. The following is from Miss Mary Dickinson, who is now Executive Secretary of the Atlanta Tuberculosis Association, but who was then first assistant to Miss Rosa Lowe, Head Settlement Worker at Wesley House. Miss Dickinson writes:

"Miss Lowe went to what was known at that time as the Elsas-May Mills in February, 1903. There was a smallpox scare at that particular time in that neighborhood and she spent the first two months cleaning up the house and planning the Day Nursery. This Nursery was already being run in a hit and miss fashion. She secured Miss Mary Echols as a day nursery matron. Many of these children had ailments and she greatly felt the need of a doctor's care and guidance in feeding the children.

"Early in April Miss Lowe went visiting in the neighborhood and found a child locked in the house and tied to the bedpost. He was screaming and crying for his mother, who was working at the mill. Miss Lowe became alarmed and sent for the mother to come and open the door. She had a clinical thermometer with her and found the child was running a temperature of 102.

"She did not know where to turn to get a doctor and called up Mrs. R. T. Milam who was at that time President of the Atlanta Methodist City Mission Board. Mrs. Milam called up a number of women on her Board and the result was an Executive Meeting, at which time they voted to develop some kind of a clinic for children. They were not very intelligent about the matter, but they had heard there were specialists for children and in the light of the need they decided to have a children's clinic.

"I remembered hearing Mrs. Milam tell about the meeting and she said, 'We actually had no money but right then and there in the Committee Meeting we knelt down and prayed for guidance and pledged ourselves to pray daily over the matter.' It was just two or three days later that a Dr. Visanska called me and said, 'I am interested in doing some clinical work for children. I hear the Methodist City Mission Board has started a community work out at the mills, could you use me?'

"Then Mrs. Milam would say, 'Now, you may not believe me, but I always believed Dr. Visanska came as a direct answer to prayer.'

"Miss Lowe used to tell me that they opened the clinic the last of April, 1903. They bought

a big book for records and some scales to weigh out the powders and some measuring glasses to measure the liquids. A number of druggists contributed some medicine and an account was opened by the City Mission Board at Provino Drug Company.

"As far as I know, that was the first child clinic anywhere in the state. Later on Dr. Collier worked with you. The clinic was a great educational factor, and you gave your services for seven years."

In 1904 this clinic was supplied with the first real public health nurse ever brought to Georgia. Miss Lowe recognized the need for more professional service and employed Miss Viola Cousart to live in the Settlement House and do what was known at that time as district nursing. This is a historic fact in Georgia. Miss Cousart, a South Carolina girl, was graduated from Massachusetts General Hospital in Boston. She had lived at The House on Henry Street, in New York, with Miss Lillian Wald, where she was trained in pioneer public health nursing. The doctors associated with the clinic prescribed formulas and directed the simple feeding of the children. These children had defects removed, were constantly kept under the observation of the clinic and were fed to the best of our ability at the nursery, while their mothers were taught and directed in home feeding.

Miss Dickinson relates an incident which casts credit on the children's clinic in those early days. "Dr. Wood Hutchinson, a famous writer on medical subjects in those days, came South. I gathered from what he said that he expected to find a rather lurid story about these children in the cotton mills. One morning he visited our kindergarten, and he was apparently greatly disappointed not to find undernourished and diseased children.

" 'Why these look just like any children,' he said in an argumentative voice. 'Why shouldn't they?' I asked. 'What did you expect to find?' 'Well,' he said, 'I thought they would be listless, undernourished, more or less ill.' I remember I turned the kindergarten over to one of my teachers and took him down the hall, where he saw the nursery and smelled dinner cooking. He lifted the lids of pots and found stew meat and peas, and saw the big, fat yams baking in the oven and found Miss Crim and Victoria pouring out tall glasses of buttermilk and cutting slices of golden corn bread. 'Well,' said he, 'it looks pretty good, but I never did like buttermilk.' Miss Dolly Crim came up. I remember, and she laughed and said, 'This great textile industry is not as bad as it is painted sometimes.' She took him to see the clinic where he met Miss Cason, who was the nurse at that time. She took him with her to visit some of the homes for a few minutes, and he came back quite enthusiastic. 'Well,' said he, 'I am glad I have

seen this. The life is simple but more wholesome than I expected. I am afraid I haven't much 'good copy' as a result."

A. G. Rhodes Home for Incurables

In 1901 the Atlanta Circle of the King's Daughters and Sons decided to concentrate their energies toward the establishment and maintenance of a home for those suffering from incurable diseases, as up to that time there was no other institution of that character in the city or in Georgia. A charter was applied for, and on Jan. 9, 1901, the circle was organized under the charter. The following officers were elected: Mrs. C. G. Shearer, president; Mrs. F. A. Garrison, vice-president; Mr. F. A. Garrison, corresponding secretary; Mrs. Oscar Ragland, financial secretary; Mrs. E. M. Layton, treasurer; Mrs. R. J. Pritchett, assistant treasurer.

I remember these ladies calling on me to assist them in their work; they had collected eight dollars and as soon as the balance of the amount was in hand to pay the first month's rent, they planned to begin. I could not refuse these good and determined women. So they began in a very humble way in a small house at 46 Church Street (where the Atlanta Athletic Club now stands), and on March 1, 1901, the Home was formally opened and I examined and admitted the first patient. Finding at an early date that these quarters were inadequate to meet the growing needs of the Home, the circle decided to start a fund for the building of a new home. Mrs. A. W. Calhoun contributed the first \$50 toward this fund which soon reached \$1,200.

In 1903 a building committee was appointed with Mrs. Henry S. Jackson chairman. The name of Mrs. Henry S. Jackson is indelibly stamped upon the minds of all who helped to establish this work, as the one who brought the institution into substantial existence and in a short time she and her associates raised a magnificent sum of nearly \$10,000. Through Mrs. John A. Miller, a desirable lot, corner of South Boulevard and Woodward Avenue (entire block) was generously donated by Mr. A. G. Rhodes. On June 7, 1904, with impressive ceremonies, the corner stone of the new building was laid and six months later the structure was completed.

On July 11, 1904, the patients were moved from 46 Church Street to their new and beautiful home. Through the marvelous zeal and untiring energy of Mr. Thomas Egleston and Mrs. Henry S. Jackson, \$1,200 was speedily raised for purchasing a furnace to heat the building and it was soon installed. Most of the rooms and wards were furnished as memorials and around the cots is entwined a story of sweet devotion to the memory of some loved one by those who hold them most dear. Through eleven long years the physicians of Atlanta have given their faithful services free of charge.

Dr. S. A. Visanska was the first chairman of

the Medical Board. His interest in the work has never wavered a single instant even in the darkest hours and he is still a very active member of the association. The Home admits children as well as adults. Lena Kershaw, admitted at the age of ten years with infantile paralysis, when a baby, was operated on by Dr. Michael Hoke. She is now thirty years of age.

Mrs. Floyd W. McRae was elected president in 1912 and is still serving with Mrs. E. L. Bishop, treasurer.

At Mr. A. G. Rhodes' death he left the sum of \$50,000, sufficient for remodeling the building again. In appreciation of his interest and generous contributions the name of the Home was changed in 1931 to the A. G. Rhodes Home for Incurables. Two wings were added, one on each side of the original building and in fact the entire structure was remodeled. Now we have a beautiful Home, with fifty beds. Dr. C. C. Aven, who contributes his services, checks the general health of the patients each week and is subject to call oftener if required. An intern, a fourth year Emory medical student, gives his services for room, board, laundry, and experience received.

Mrs. Mollie Rosenberg, superintendent, for the past ten and one-half years, is a graduate of Grady Hospital Training School for Nurses. She is not only superintendent, but "mother" in every sense of the word to all inmates and they are all smiles as soon as she enters. She was "just born" for the position. The patients are a happy lot, never uttering a complaint. Each one finds something to do to while-away the time. Radios in each ward and many private rooms. These shut-ins love to have visitors and there is a hearty welcome awaiting you to visit this lovely Home.

The grounds are kept in fine condition and a variety of beautiful flowers can be found in the gardens. Each Sunday afternoon a Minister from one of the churches conducts services. A choir is always present, rendering sweet music. Prayer books are distributed to all.

The writer's name is engraved on the corner stone with other members of the building committee, on a tablet that is placed in the hall, and on the door of the drug room is inscribed. "Dr. S. A. Visanska, in appreciation for long services."

We are indebted to Mrs. Oscar Ragland for all information about the Home up to 1912. Mrs. Ragland is the only surviving member of the original Board, now interested in the Home. Due to an accident several years ago, Mrs. Ragland finds it impossible to be as active in the management as formerly, but her loyalty and faithfulness is a comfort to all in any way connected with the Home for Incurables, whether a patient or member of the Board.

Better Babies

As the function of a physician is not only to cure disease when it occurs, but also to prevent its appearance whenever possible, I found myself some years ago investigating preventive methods for many diseases of children. With this end in view I was naturally attracted to the dressing of the newborn infant especially, hence my conclusions as to the diaper and the navel band. I knew that new ideas are not always accepted eagerly or kindly, and therefore it was with some timidity that I first spoke on this subject before the South Carolina Medical Association (my native state) in an annual session of that organization held at Greenwood. To my surprise, my address was published in the local press, and at once its salient features began to be copied throughout the country by medical journals. This resulted in an avalanche of letters coming to me from all parts of the country, asking for fuller descriptions of my "better way of putting on a diaper," and of my "new navel band idea." These letters I answered as conscientiously as I could, but the book was written as a fuller response to my absent and unknown correspondents.

Again, I was called upon to address different associations of women who were devoting themselves to the promotion of child welfare throughout the country and the cordial reception given my talks about the diaper and navel band, and the insistent requests which were made for photographs, reasons, etc., formed another link in the chain of circumstances which seemed drawing me closer and closer to the incident of writing. I realized that I had to "have something" to bring about this radical change. Dr. R. L. Hannah assisted me with the photograph, taken post-mortem, to illustrate the diaper article, as well as Dr. John Derr, who made the excellent x-ray photographs, also Dr. Alf Lomax, the well known Atlanta photographer, who produced the finished pictures. Miss Crawley, R.N., also ably assisted me with the pictures of the living infant in illustrations of the diaper, and Miss Carroll Swann, R.N., aided in the taking of the pictures illustrating the navel band and the temperature-taking.

You and I have often seen the soft skin of a baby's tender abdomen circled by a tense red line where the diaper has been ruthlessly pulled around the little form. With the one idea in view, that of protection and personal neatness, by folding the diaper a little longer than wide, you get neatness as well as protection, and there is no pressure on any organ or set of organs, besides it is more comfortable. Another point occurred to me in this connection; the majority of people are right-handed, and for this reason a sharp pull is given from the left toward the right when the diaper is adjusted, which brings the pressure directly over the sigmoid, which is found on the

left side and which holds the fecal matter until expelled. The pressure here and over the lower part of the abdomen, is no doubt one of the main causes of intestinal stasis in infants, for it was a fact that seven out of every ten infants, whether fed at the breast or artificially, were constipated. I carefully investigated the texture of the bones of the pelvis in infants and found these bones quite as pliable as the others in an infant's body. Our best authorities tell us that the pelvic bones in early life are composed of three bones and that the ossified union between them is not complete until the subject is 18 or twenty years old. These same authorities state that "just as no two human faces are alike, no pelvises can be found which do not present some differences, and in addition to this, it is further claimed that no pelvis is perfect in symmetry and form or normal in measurements." While it is difficult to state positively that our infants are born with these pelvic differences and even though the sacrum and coccyx complete the pelvis posteriorly, my conclusion as to the possible effect of the diaper would not be altered. From all of which, therefore, we can see that by making greater, persistent and undue pressure around the pelvic bones, the anterior-posterior diameter is slightly lengthened and the transverse made narrower, and by making greater pressure on the left side than the right it would unbalance the normal pelvis even if the bones were normal, and more so if rachitic. We must bear in mind that a diaper is worn twenty-three hours out of the twenty-four, and in the majority of cases until the infant's eighteenth month, while it is not unusual to find this garment on a child two years old.

As all physicians know, neither the uterus nor bladder takes its proper place in the pelvic cavity until the child is at least 6 years old, hence during the entire period when the diaper and binder are used, the unnatural pressure is a menace. In fact, until the twenty-fifth year, danger may exist for not until that time is the bony union complete. We must also remember that the fundus of the uterus is on a line with the anterior spinous process; that the bladder, when full, rises a little higher and that when you put on a baby's diaper, tight or loose, and pin it in the center with a large safety pin, and then sit the child up, it is easy to imagine what takes place underneath the artificial bandage, especially as often happens when the long ends of the triangle are knotted and forced underneath the front point. This latter practice makes a hard lump, pressing deep down right over the uterus, and it would be wonderful indeed if deformities did not result from such a condition. This method has been universally adopted.

Lack of space prevents me from describing the navel band and will refer you to "Better Babies." Taking baby's temperature even up to

the seventh year should be per rectum. This is a wise precaution and the only safe way until the child is old enough to hold the thermometer under the tongue. The best way is to take it with the child lying on its stomach for in this way you have perfect control, and they cannot twist or squirm or pull away as often happens. Then again you strike the anus first and no danger in females to rupture the vagina. In severe intestinal disorders, while there is straining, your fingers can be compressed on either side of the thermometer, the fingers act as a sort of splint, and the baby can strain upward rather than downward.

A rather amusing incident happened some years ago in connection with the taking of the rectal temperature in an infant with a severe diarrhea. The doctor, in taking the temperature had the nurse bring the patient to the edge of the bed with the child lying on back, the legs were pulled upward. The doctor then knelt down in front of the baby and after anointing the thermometer with vaseline, turned to introduce it, but before I could say "beans" he touched the anus, producing a loud explosion of gas, and he was treated to what the telegrapher would term "a dot and dash" of fecal matter directly on his immaculate shirt front. The incident was quite embarrassing to the doctor, but was a good argument for taking a child's temperature as I have described.

From the *Atlanta Constitution*, 1917:

Although we have witnessed during the last twenty years a period of almost phenomenal development and progress in all the sciences and arts, it has been truly stated that in none of these has the progress been greater than in that particular branch of science which treats of medicine. Progress has been made here on account of the many discoveries of the causes of disease which were formerly unknown and on account of the discoveries of new chemicals and serums for their treatment. But greater than the progress in the diagnosis and treatment of disease has been the progress in preventive medicine. It has been truly said that the best treatment for disease is the prevention of disease, hence the modern tendency in medical and social work is towards prevention by means of education as to the cause and the nature of the spread of all diseases. Therefore, this is a particularly opportune time for us to devote more time and thought to the subject of "better babies" since prevention here would begin with conception and extend on up to adult life.

The subject of infant mortality is one that has interested cities, communities and governments from time immemorial since it was long ago realized that the most delicate period of life is the first few years. The death rate here is greater than at any other period until old age begins. To have a better, more virile, better developed

race both mentally and physically we must begin with the baby. For even though it may not succumb to the many diseases to which it is subject at this time, it may become crippled either mentally or physically and therefore not have the equal opportunity later in life which every child should have guaranteed it insofar as is humanly possible.

Since Dr. Visanska has spent many years of his life devoted exclusively to the study of these problems which are necessary for us to know to have "better babies," and therefore better adults, it is peculiarly fitting that he should give us an account of his experiments and the result of his experience. It has been said that genius is an infinite capacity for attention to details and if this be genius, Dr. Visanska certainly deserves the title, for it was by this means that he learned and proved his conclusions as to the proper application of the diaper and navel band to the infant. It somewhat stuns us at first to learn that our ideas a century old are founded upon misconceptions and misinformation, but when we listen to the clear argument of Dr. Visanska and see the clearer x-ray photographs of the infant pelvis, doubt is dispelled and we realize the truth of his statements. In giving us these facts in such a clear and simple manner he has rendered a service to his profession, to the many present and future mothers and to his country.

In 1897, owing to the illness of Professor Webb, I was appointed Dean and Professor of Pharmacy, a branch of the Southern Medical College, until a successor to Professor Webb could be found. I had very little time for "brushing up," and preparing my lectures. I did not know until some years later that two of my pupils were taking the course for an M.D. degree. These two boys attended the greater part of the '98 lectures and I naturally feel quite proud to find them very distinguished in their respective specialties.

Dr. Frank Boland, surgeon, and Dr. Stewart R. Roberts, internist. A letter from Dr. Roberts "speaks for itself," and shows that he and Dr. Boland desired more knowledge of medicines, something every student of medicine should crave.

Dear Dr. Visanska:

I remember well at the old Southern Medical College on Broad Street, there was attached to the School of Medicine a School of Pharmacy. You were the Dean and Professor of Pharmacy. The lectures were held in the small lecture room on the second floor at the south end of the main building. The text book was Remington's PHARMACY. The book was bound in sheep, and had, I think, a green legend pasted on the back saying, "Pharmacy—Remington." It was a very large book and very expensive. I remember when I showed it to my father, he held it with

great pride in his hands and looked at it.

We enjoyed your lectures very much. You stood by a small table usually to your right, or sat on it. On the table you usually brought up the medicines on which you were lecturing. I particularly remember your lectures on tinctures, your definition and illustration of percolation, your illustration of infusions, and the difference between tincture and the infusion of Digitalis. Doctor Frank K. Boland was a member of the class. He remembers, I think, some of the other members. I believe we had about a dozen in the class. The course, as you gave it, has always made me feel a little closer and a little kinder to drugs and the great field of pharmacy.

You always came into the room with a smile, with a bright and elastic step, and it was a real pleasure to go to the class. There was enough room for most of us to sit on the front seat, and time enough to ask questions.

With appreciation, and sentiments of personal regards, I am

Sincerely yours,

STEWART R. ROBERTS, M.D.

At the Atlanta meeting of the Southern Medical Association, in 1916, a group of Southern pediatricists, including W. A. Mulherin, of Augusta, obtained permission to organize a pediatric section. In spite of general doubts as to the wisdom of such an organization, the Southern Section on Pediatrics was an almost immediate success and factor in the advancement of pediatrics in the South. Other Georgia doctors influential in its organization, according to Dr. Mulherin, were: Drs. Charles Boynton, R. G. McAliley, L. B. Clarke (deceased), George Varden (deceased), Nevin Adkins (deceased), all of Atlanta.

In 1918, Dr. Mulherin organized the Georgia State Pediatric Society, according to available records, the first state pediatric society in the South. The following year, he recommended to the Southern Section on Pediatrics such an organization for the other Southern states. His recommendation was accepted and by 1922 practically every Southern State had a pediatric society.

"The Georgia State Pediatric Society is today the leading State Pediatric Society in America. It is really entitled, from its scope and importance, to be called the Southeastern Pediatric Society, according to Dr. Mulherin."

Other Georgia organizations include the

Fulton County Pediatric Society, the Augusta Pediatric Society, a branch of the American Academy of Pediatrics.

Specialized activity in the pediatric field was first evidenced in Atlanta. The pioneers were S. A. Visanska, Charles E. Boynton, and Lee Ben Clarke, all of whom began their work during the first five years of 1900.

An early pediatricist in Savannah was Antonio Waring, a graduate of Columbia Medical School in 1908. However, public health work, which is primarily concerned with the care and welfare of children, started in Savannah even earlier than in the other Georgia cities.

In Columbus, Mercer Blanchard began practice shortly after he graduated from the University of Virginia in 1913. Macon's pioneer is Benjamin Bashinski, a graduate of Tulane University in 1916.

There are now 40 practicing pediatricists in Georgia, 30 of whom are in Atlanta, and 10 scattered over the State.

P R O C E E D I N G S
HOUSE OF DELEGATES
of the
MEDICAL ASSOCIATION OF GEORGIA

Synopsis
Ninety-First Annual Session
Savannah

April 23-26, 1940

PRESIDENT'S REPORT AND RECOMMENDATIONS. Motion carried to approve the excellent leadership of the President, increased activities of committees and membership; endorsed the suggestion that the Association gradually increase its reserve fund to \$50,000, to continue the close cooperation of the secretaries of county societies and the office of the Secretary-Treasurer, to consolidate committees and especially advisory committees when possible, to enlarge the Committee on Medical Economics to include members in various sections of the State, that at least one post-graduate medical extension course be given annually in each district of the State, that Secretaries of county medical societies be elected according to ability and continued merit for the responsibilities of the offices.

PRESIDENT-ELECT'S RECOMMENDATIONS. Motion carried to adopt the recommendation that the personnel of the Committee for the Study of Maternal Mortality and Infant Deaths be reduced to five to increase its efficiency and to obtain closer cooperation between its chairman and members, that a committee be appointed to study and devise means and methods to lower mortality in Georgia from appendicitis, to extend post-graduate medical education in the State, that a committee be appointed to secure a broader and more equitable distribution of

physicians in Georgia (referred to the Committee on Medical Economics), to encourage and promote the building of hospitals in sections of the State where needed and to enlarge small hospitals in rural communities where required by obtaining grants or other aid from the Federal government, that a plan be promoted to obtain financial aid for the aged and dependent physicians of Georgia (referred to the Committee on Medical Economics).

SECRETARY-TREASURER. Motion carried to adopt the entire report of the Secretary-Treasurer on official membership and finances. He was thanked for his untiring efforts which have increased the membership of the Association to the largest in its history, that the highest principles have been maintained in the interest of the profession and public health, that such an attainment is not accomplished by chance, that "To our Secretary-Treasurer and other responsible leaders we would record our acknowledgment of the real part which they are playing in carrying forward a program of medical service to our people, second to none in the country."

PARLIAMENTARIAN. Motion carried to adopt the suggestion that a copy of the original charter of the Medical Association of Georgia be published in *THE JOURNAL*; that after an intensive study of the constitutions and by-laws of twenty-four other state associations that of the Medical Association of Georgia had been found to be in proximity with theirs or superior in clear expressions of meaning and more liberal and flexible than many others; that some plan be promoted to provide medical care on a prepayment basis for the low income group (referred to the Committee on Medical Economics).

PUBLIC RELATIONS BUREAU. Motion carried to adopt the report of the Public Relations Committee in reference to funds collected and disbursed, publishing and mailing Medical News to all newspapers in the State and to all officers and chairmen of committees of the Association; that the Association continue to publish and mail Medical News; seek publicity by each county medical society; extend publicity activities through the Woman's Auxiliary and other women's organizations in the State; to increase publicity by each county health unit, to enlist the aid of the State Department of Education; and to show health films in the schools.

MATERNAL MORTALITY AND INFANT DEATHS. Motion carried to adopt the report of the chairman that mortality rates had been reduced 50 per cent in the last ten years, that with the help of the Children's Bureau in supplying questionnaire forms the Committee had succeeded in getting 81 per cent of the questionnaires completed and returned. The Committee acknowledges the contribution by the Federal government on "grants-in-aid" through the State Department of Public Health in the operation of prenatal clinics.

MEDICAL CARE—FARM SECURITY ADMINISTRATION. Motion carried to approve a plan introduced by Dr. W. D. Gholston, Danielsville, to provide medical care for the clients of the Farm Security Administration if such a plan is adopted by a majority of the members of the county medical society in which the medical care is to

be rendered, that it is only binding upon the physicians in the county in which such a working agreement is made and upon physicians in other counties who may subscribe to the agreement and that all shall participate on an equal basis, that the free choice of physicians must be maintained and must conform to the rules and ethics of the American Medical Association and the Medical Association of Georgia.

MEDICAL CARE. Motion carried to appoint a Committee on Arrangements to plan a State-wide conference to discuss medical care for the low income group and to insist on having representatives from all health agencies in the State. (This conference is proposed to discuss specifically the recommendations contained in the Symposium on the Problems of Medical Care in Georgia as presented to the Association at its Savannah Session, April 24, 1940).

PEDIATRICS—ADVISORY COMMITTEE, STATE BOARD OF HEALTH. Motion carried to adopt the Committee report and that its work be continued, that it follow the advice and cooperation of the American Academy of Pediatrics, that child health work be co-ordinated, that each state chairman of the Academy of Pediatrics recommend fellows or other qualified physicians to act as child health advisors, that qualified personnel be used in every department, and adopt the Manual of Immunological Procedures as submitted by the State Department of Public Health.

HOSPITALS. Motion carried to adopt the report of the Committee that a Steering Committee be organized composed of the Committee on Hospitals, the Committee on Public Policy and Legislation, the President, President-Elect and Secretary-Treasurer to study plans for legislation and to cooperate with governmental agencies, to especially promote the interests and standing of hospitals in rural communities which have limited facilities and to prevent the practice of medicine by hospitals; that a sub-committee be appointed to advise and plan for the approval of small hospitals in rural areas by our Association, and to study plans for group hospitalization.

CANCER COMMISSION. Motion carried to adopt the report of the Chairman: that with the increased facilities and cooperation of the Women's Field Army of the American Society for the Control of Cancer, more work has been accomplished and more people contacted than ever before; members of the Cancer Commission and Dr. Max Cutler, of Chicago, formerly of Georgia, were signally honored by citations from Governor Rivers, presented by Hon. Robert F. Maddox, president of the State Board of Health; the director of Cancer Control of the State Department of Public Health, and Dr. L. A. Scheele, of the U. S. Public Health Service, visited a number of our treatment centers and highly commended the work which has been done; that the tissue pathology laboratory has done valuable work; that eleven clinics are operating in Georgia and that two have been provided with adequate radium by private donations, that \$2,500 worth of radium has been donated to one clinic, that 300 milligrams of radium have been allotted to Georgia by the Federal government, and that all these clinics are

thoroughly equipped; articles on the control of cancer have been published and distributed over Georgia and a full page ad published in Grier's Almanac, gratis; the work was suspended for six months for lack of funds from July 1, 1939, to January 1, 1940; an average of 150 patients each month have applied for treatment, some of whom could not be treated and have died; diagnoses were made for 787 individuals, 598 of whom had cancers; 73 per cent of cancers in Georgia are in the skin, female reproductive organs, the breast, lips and mouth; the Commission is indebted to Dr. M. Fernan-Nunez of Marquette University School of Medicine, and Parke, Davis & Co., of Detroit, for their loans of excellent material for our scientific exhibit. The officers of the Association were thanked for their assistance with a plea that the Association will make it possible to continue the work.

HISTORY. Motion carried to adopt the report of the Committee that it should have more time to obtain and assemble material to complete the Medical History of Georgia, that it has many biographies yet not sufficient other material to publish.

CALHOUN LECTURESHIP. Motion carried to adopt the report of the Committee to sponsor an appeal to members of the Association to contribute \$1,000 to replace a loss on certain stock purchased by the Committee on which no dividends are being paid and the depreciation in the value of the stock amounts to more than the amount solicited. The selection of a speaker for the Savannah session was approved.

ADVISORY—WOMAN'S AUXILIARY. Motion carried to adopt the report of the Committee, that it had met twice during the year, that the Auxiliary had helped the medical profession as well as the public, and thanked its President, Mrs. Eustace A. Allen, for her excellent leadership.

ADVISORY—STATE BOARD OF HEALTH. Motion carried to adopt the report of the Committee, that it commends the management of the State Board of Health for its excellent work and cooperation with the medical profession.

ADVISORY—STATE BOARD OF HEALTH, SOCIAL SECURITY ACT. Motion carried to adopt the report of the Committee, that no meeting had been held and recommended that the Committee function.

ADVISORY—OPHTHALMOLOGY—STATE DEPARTMENT OF PUBLIC WELFARE. Motion carried to adopt the report of the Committee, that its only function was to recommend ophthalmologists and that no meeting had been held. The Committee was urged to enlarge the scope of its work and conquer greater fields.

SYPHILIS. Motion carried to adopt the report of the Committee and commend it for its excellent work and cooperation with the State Department of Public Health to establish ninety clinics in the State, and the payment of honorariums to physicians who were engaged in the work.

SCIENTIFIC WORK. Motion carried to approve the pro-

gram as arranged by the Committee, and thank it for its work.

MEDICAL DEFENSE. Motion carried to adopt the report of the Committee and its general attorneys, expressed satisfaction that its work had been so efficiently handled.

Motion carried that in the case of the State vs. ————
——— from Wayne County, the pleadings be referred to the Association's general counsel.

Motion carried that since an error in a birth certificate was made while a defendant was not a member of the Association, under the Constitution and By-Laws the Committee on Medical Defense is not authorized to defend the suit.

Motion carried directing the attorneys of the Association to review the amended pleadings of the suit of ———— vs. ———— and ———— from Laurens County. While half of the fee for one of the defendant's attorneys has been paid by the Association, the review of the pleadings and amended plea is to ascertain whether or not any other fee should be paid by the Association.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION AND THE COMMITTEE OF PUBLIC POLICY AND LEGISLATION. Motion carried to combine the reports of the Delegates and the Committee, that the delegates reported the essential activities of the House of Delegates to the American Medical Association without unnecessary details, that sane and sensible changes are advocated by the profession in the Wagner Bill, that the House of Delegates emphasizes the importance of cooperation, that since the General Assembly of Georgia did not convene between the sessions of the Association in 1939 and 1940 there is no special report to be made in reference to State legislation.

NATIONAL PHYSICIANS' COMMITTEE. Motion carried to approve the objectives of the National Physicians' Committee as outlined to the House of Delegates.

AWARDS. Motion carried to adopt the report of the Committee, that Doctors Hugh and Howard Hailey, of Atlanta, be awarded the inscription on the Hardman Loving Cup for their research in "Familial Benign Chronic Pemphigus" at the Savannah Session April 25, 1940.

MEDICAL ECONOMICS. Motion carried to adopt the report of the Committee: that an effort has been made to make a survey of the State and what should be done to provide medical care can be demonstrated; that one physician to 1,000 population is necessary, that in 153 counties there is a lack of 1,129 physicians, that in 6 counties there are more physicians than needed, 2 counties have no physician, 5 counties have 1 physician to each county, 14 counties have only 2 physicians each; 4 counties have an excess of hospital beds, 155 counties have less hospitals than needed, total deficiency in hospital beds is 8,558; 28 counties have no hospital facilities, hospital beds for colored people are inadequate even in the larger cities, in many localities where hospital facilities are available there is none for the low

income group; that 40 per cent of the population is able to pay for adequate medical service, a small portion of the remaining 60 per cent can pay about half the normal fees, others cannot pay anything, the physicians in such areas are willing to practice for half the regular fees. To remedy the condition, the Committee recommends that a few large hospitals be located in the most convenient sections of the State and to increase the bed capacity in the small hospitals in rural communities; that the Association provide a committee to inspect the hospitals to appraise the service rendered and to urge adequate service in keeping with approved hospitals; to provide instructions for midwives and place them under direct supervision of a competent physician who could be called when complications arise.

POST-GRADUATE EDUCATION. Motion carried to adopt the report of the Committee and urged the two medical schools in Georgia to use their best effort to encourage and promote post-graduate medical education, to select hospitals in various sections of the State in which meetings may be held. It is not the intent of the House of Delegates to interfere in any way with the meetings of district societies but if it appears to the best and mutual interests of both, then joint meetings may be held; or select a committee to promote and make arrangements for post-graduate meetings to be held in the respective districts, that the Councilor from each district act as chairman of a committee of three to be appointed by himself and to arrange for all post-graduate education meetings or lectures.

ORTHOPEDICS-ADVISORY COMMITTEE, STATE DEPARTMENT OF PUBLIC WELFARE. Motion carried to adopt the report of the Committee and an expression of approval of the excellent work accomplished. The report showed that 2,641 crippled children had registered and more than 1,200 in various sections of the State had been treated. The Committee and House of Delegates urge the State Department of Public Welfare, the Governor and others with authority to respect the nominations for the appointment of a director of the Department when submitted by the Medical Association of Georgia. At the request of the Crippled Children's Bureau, this Association submitted the name of a competent physician to direct the work of the Department, that he was dismissed without sufficient cause and in violation of good faith with our Association. A resolution was adopted in which it was set out that the Medical Association of Georgia regards this as a matter of such gravity that it cannot be permitted to pass unchallenged. It was further ordered that a copy of the resolution be mailed to Governor Rivers, Dr. R. C. Hood, Crippled Children's Bureau, Washington, D. C., and to the Hon. Braswell Deen, director of the Department of Public Welfare in Georgia.

INDUSTRIAL HEALTH. Motion carried to adopt the report of the Committee, that a representative of this Association attend the Annual Congress on Industrial Health sponsored by the American Medical Association and that the Council consider an appropriation to defray the expenses of our delegate.

TUBERCULOSIS. Motion carried to adopt the program of the Committee as outlined in its report; that while only one meeting of the Committee has been held, its members have been active as will be seen by the reports; that the intentions of the Committee are to control tuberculosis in Georgia and to consider proper legislation for that purpose, to educate the doctors and public; encourage case finding campaigns and the presentation of papers on tuberculosis at medical meetings; appoint committees on tuberculosis in counties where county medical societies exist; periodic examinations of teachers, nurses, servants and others who contact children; care of pneumothorax refills in patients returned from the State Tuberculosis Sanatorium; co-operation with other agencies engaged in tuberculosis control.

FRATERNAL DELEGATES. The House of Delegates received the reports with information from other state meetings by its delegates and acknowledged them with thanks.

LICENSE TO PRACTICE. Motion carried to refer a proposed resolution to require all medical students to serve at least one year as an intern in an accredited hospital before they are granted licenses to practice was referred to the Committee on Public Policy and Legislation for study and recommendation.

MUTUAL PROBLEMS OF WHITE AND COLORED PHYSICIANS. Motion carried to appoint a special committee to act as a liaison between the Medical Association of Georgia and the Georgia State Medical Association (colored) for consideration of their mutual problems and to report to the next annual session of the Association in 1941 with especial reference to hospitals built with Federal funds which might be used for white and colored patients.

PHARMACY. Motion carried to oppose any change to shorten the four-year term required to graduate from an accredited school of pharmacy and to approve of just representation of the Georgia Pharmaceutical Association on all boards dealing with drugs.

BANQUET. Motion carried to require all members who attend annual banquets of the Association to purchase tickets for themselves and for each of his or her guests; that is, to pay the full amount of all costs for food and entertainment.

ANESTHESIA. Motion carried to recommend that Emory University School of Medicine and the University of Georgia School of Medicine establish a chair of anesthesia in their respective schools.

AMBULANCE DRIVERS. Motion carried to appoint a committee to urge training for first aid Red Cross ambulance drivers.

DISASTER. Motion carried for each Councilor to act as chairman of a committee of three to answer disaster calls and direct medical aid in the State following tornadoes, fires, floods, etc. Each Councilor is authorized to appoint two committeemen to serve with him.

FOREIGNERS' LICENSES. Motion carried to approve the law which prevents any foreigner from being licensed to practice medicine in Georgia by reciprocity or ex-

amination, and that license be issued only to graduates of approved medical schools in the United States.

MEDICAL AND SURGICAL CARE. Motion carried to refer all recommendations for medical and surgical care to the Committee on Medical Economics.

DUES. Motion carried to set the amount of dues for 1941 at \$7.

MONUMENT. Motion carried to refer the suggestion to raise funds for a monument to the late Dr. H. V. M. Miller to the Sub-Committee on Medical History.

MEDICAL ASSOCIATION OF GEORGIA

Receipts and Disbursements

Balance Sheet

April 1, 1939—March 31, 1940

Receipts

April 1, 1939:

Cash subject to check—Fulton	
National Bank, Atlanta	\$11,247.39
Citizens & Southern National	
Bank, Atlanta	5,159.21
First National Bank, Atlanta.....	5,119.72
Standard Federal Savings and	
Loan Association, Atlanta	2,040.00
Fulton National Bank, Atlanta,	
History Fund	1,263.62
Interest on Savings Accounts.....	256.24
Accrued Interest on U. S. Gov-	
ernment Savings Bonds.....	130.49
All other receipts of the Asso-	
ciation	22,278.70

Total..... \$47,500.37

Disbursements

April 1, 1939 to March 31, 1940:

Disbursements—Itemized	\$16,498.91
Savings Accounts:	
Citizens & Southern National	
Bank, Atlanta	5,236.88
First National Bank, Atlanta.....	5,196.79
Standard Federal Savings and	
Loan Association, Atlanta.....	2,122.40
Fulton National Bank, Atlanta,	
History Fund	1,287.72
Ten \$1,000 U. S. Government	
10 Year Savings Bonds.....	7,630.49
Cash subject to check—Fulton	
National Bank, Atlanta.....	9,527.18

Total..... \$47,500.37

MEDICAL ASSOCIATION OF GEORGIA

Operating Balance Sheet

April 1, 1939—March 31, 1940

Receipts and Disbursements

Receipts

Dues	\$12,169.35
Advertising	6,240.38
Public Relations Bureau	1,472.50
Commercial Exhibit	2,341.50
Subscriptions	54.97

Total.....	\$22,278.70
<i>Disbursements</i>	
The Journal	\$ 7,521.31
Salaries	2,055.00
Medical Defense	1,765.25
Public Relations Bureau.....	1,205.00
Public Policy and Legislation.....	384.75
Delegates and official representa- tive to the American Medical Association	600.00
Honorarium for President and other expenses of officers.....	381.20
Atlanta session, April 25-28, 1939: Programs, badges, loud speaker, signs, reporting, Auxiliary, ex- penses of guests, electric pointer and projector.....	581.85
Scientific exhibit	330.05
Commercial exhibit	193.76
Cancer Commission	150.00
Rent	121.88
Postage—prepaid and business re- ply	374.00
Telephone and telegraph.....	90.09
Stationery, Council, binding, sure- ty bonds, fire insurance, lighting equipment, history, Auxiliary, sign, janitor, moving, flowers, mimeograph supplies, etc.	744.77
Gain in operation	5,779.79

Total..... \$22,278.70

THE JOURNAL OF THE MEDICAL ASSOCIATION
OF GEORGIA

Receipts and Disbursements
April 1, 1939—March 31, 1940

Receipts

Subscriptions through member- ship	\$ 5,215.43
Other subscriptions	54.97
Advertising	6,240.38
Total.....	\$11,510.78

Disbursements

Printing	\$ 4,293.87
Salaries	2,055.00
Cuts for illustrations.....	471.10
Postage	328.00
Commission on advertising orders	151.41
Rent	121.87
Envelopes	85.66
Copyright Journals	24.72
Addressograph repairs and sup- plies	9.68
Profit	3,969.47

Total..... \$11,510.78

DISBURSEMENTS—*Itemized*

No.	Name	Amount
3137—	Bryan, Middlebrooks & Carter, Attys. Cost in suit of Kuttner vs. Cosby Swanson, M.D., in appeal for rehear-	

ing	\$ 11.95
3139—L. F. Livingston, postmaster Postage	30.00
3140—Photo Process Engraving Co. Cuts for illustrations and work on electros for advertisers.....	113.42
3141—Lyon-Young Printing Co. Binding 11 volumes of the 1938 issues of The Journal	20.00
3142—Ivan Allen-Marshall Co. Gem clips, rubber bands and wrap- ping paper	2.60
3143—Southern Bell Tel. & Tel. Co. Telephone account to March 21, 1939	11.41
3144—Southern Press Clipping Bureau News clippings for February and March, 1939	10.00
3145—A. B. Dick Co. Mimeograph stencil sheets.....	3.50
3146—Edgar D. Shanks, M.D. Salary for Secretary-Treasurer for March, 1939	200.00
3147—H. L. Rowe Salary for Executive Secretary for March, 1939	192.50
3148—Mrs. G. R. Sims Secretarial and other work on Journal and Public Relations Bureau.....	115.00
3149—Edgar H. Greene Expenses incurred for the Committee on Public Policy and Legislation dur- ing the regular session of the General Assembly of Georgia.....	50.00
3150—J. L. Campbell, M.D. Expenses incurred for the Committee on Public Policy and Legislation dur- ing the regular session of the General Assembly of Georgia.....	50.00
3151—Spencer A. Kirkland, M.D. Expenses incurred for the Committee on Public Policy and Legislation dur- ing the regular session of the General Assembly of Georgia.....	50.00
3152—C. C. Aven, M.D. Expenses incurred for the Committee on Public Policy and Legislation dur- ing the regular session of the General Assembly of Georgia.....	50.00
3153—Edgar D. Shanks, M.D. Traveling expenses, express charges and expenses incurred for the Com- mittee on Public Policy and Legisla- tion during the regular session of the General Assembly of Georgia.....	139.00
3154—H. L. Rowe Extra work for the Committee on Pub- lic Policy and Legislation, Public Re- lations Bureau and incidental ex- penses at office (keeping accounts and collecting for Bureau)	30.00
3155—C. L. Ayers, M.D. Expenses incurred for the Committee	

on Public Policy and Legislation during the regular session of the General Assembly of Georgia	14.00	24-28, 1939, as follows: two carpenters one and one-half days each, \$18; five Negroes and bell boys, \$19.65; cloth, \$3.48; cabs for transferring supplies and running errands, \$2.10; telephone calls, 85c; pencils, 25c; extra expenses of H. L. Rowe, \$13.25.....	57.58
3156—John H. Harland Co. 25,000 No. 10 envelopes and 20,100 letterheads	144.15	3173—Wynne Sign and Advertising Co. Painting signs for the exhibitors and Association, Atlanta session, April 25-28, 1939	38.50
3157—The Lilley-Ames Co. 1200 Badges for the Atlanta session April 25-28, 1939	75.00	3174—Southern Bell Tel. & Tel. Co. Telephone account to April 21, 1939	7.20
3158—Darby Printing Co. Printing 750 copies of the Medical News for the Public Relations Bureau	21.00	3175—Remington Rand, Inc. Typewriter ribbon and carbon paper coupon book	7.00
3159—Bryan, Middlebrooks & Carter, Attys. Cost in suit of Mrs. Kuttner vs. Dr. Cosby Swanson in certiorari to review judgment of the Court of Appeals.....	140.75	3176—Edgar D. Shanks, M.D. Salary for Secretary-Treasurer for April, 1939	200.00
3160—L. F. Livingston, postmaster Postage	30.00	3177—H. L. Rowe Salary for Executive Secretary for April, 1939	192.50
3161—J. A. Redfearn, M.D. Expenses incurred as Councilor.....	20.00	3178—Georgia Power Co. 24 Light bulbs for the scientific exhibit, Atlanta session, April 25-28, 1939	3.60
3162—R. L. Robinson Night watchman at Biltmore Hotel, April 25-28, 1939, for commercial exhibit	19.50	3179—F. C. Bats Signs for the scientific exhibit, Atlanta session, April 25-28, 1939.....	32.50
3163—Thurston Spell Night watchman at Biltmore Hotel, April 25-28, 1939, for commercial exhibit	19.50	3180—L. F. Livingston, postmaster Deposit for postage to mail The Journal	25.00
3164—J. A. Murdoch Operating projector machine during the annual session, April 25-28, 1939	20.00	3181—H. H. Shoulders, M.D. Expenses to and from Atlanta to attend the Atlanta session, April 25-28, 1939, invited guest	25.00
3165—Mrs. Margaret Norris Work at registration desk during the annual session, April 25-28, 1939.....	16.00	3182—Strickland Film Corporation Furnishing projector, screen and operator for the general meetings at the Atlanta session, April 25-28, 1939.....	45.00
3166—Elsie V. Beck Stenographic work for Reference Committees, April 25-28, 1939	12.00	3183—Virgil W. Shepard Six flood lights installed for commercial exhibitors at the Atlanta session, April 25-28, 1939.....	12.00
3167—Acoustic Equipment Co. Sound equipment installed for use during the annual session, April 25-28, 1939	70.00	3184—Campbell Coal Co. Lumber and nails used for commercial exhibitors at the Atlanta session, April 25-28, 1939	24.68
3168—Webb & Martin, Inc. Printing and mailing 2300 copies of the April, 1939, issue of The Journal	321.25	3185—Cash For post office order and fee to copy-right The Journal.....	2.06
3169—Webb & Martin, Inc. Printing 1100 copies of the program for the Atlanta session, April 25-28, 1939; registration cards and 300 programs for the Woman's Auxiliary.....	163.50	3186—Fulton County Medical Society Rent for April and May, 1939.....	27.50
3170—Jetter & Scheerer Products, Inc. One-half price paid for exhibit space No. 34 at the Biltmore Hotel, Atlanta, April 25-28, 1939. Space used by Pet Milk Corporation through error and on advice by assistant manager of the Biltmore Hotel	28.50	3187—Logan Clarke Insurance Agency Premium on surety bond for Secretary-Treasurer to May, 1940	5.00
3171—H. P. McDonald, M.D. Expenses incurred for the Committee on Public Policy and Legislation.....	55.00	3188—Photo Process Engraving Co. Cuts for illustrations.....	38.60
3172—Cash Paid for expenses of commercial exhibit at Biltmore Hotel, Atlanta, April		3189—Biltmore Hotel Account for guests during the Atlanta session, April 25-28, 1939.....	24.60
		3190—McDonald Printing Co.	

	Printing auto stickers and banquet tickets for Woman's Auxiliary, Atlanta session	8.25		Printing 750 copies of the June, 1939, issue of the Medical News	22.00
3191	Wm. H. Myers, M.D. Payment on expenses for delegate to attend the St. Louis session of the American Medical Association, May 15-19, 1939	150.00	3209	Southern Bell Tel. & Tel. Co. Account to May 21, 1939.....	6.60
3192	C. W. Roberts, M.D. Payment on expenses for delegate to attend the St. Louis session of the American Medical Association, May 15-19, 1939	150.00	3210	Edgar D. Shanks, M.D. Salary for Secretary-Treasurer for May, 1939	200.00
3193	Olin H. Weaver, M.D. Payment on expenses for delegate to attend the St. Louis session of the American Medical Association, May 15-19, 1939	150.00	3211	H. L. Rowe Salary for Executive Secretary for May, 1939	192.50
3194	Edgar D. Shanks, M.D. Payment on expenses for official representative of the Association to attend the St. Louis session of the American Medical Association, May 15-19, 1939	150.00	3212	Addressograph Sales Agency Addressograph name plates and frames	6.63
3195	Ansley Hotel Account Dr. Grady N. Coker, president, April 13-15, 1939.....	10.50	3213	L. F. Livingston, postmaster Deposit for postage to mail The Journal	25.00
3196	Atlanta Envelope Co. 25,800 Envelopes for mailing The Journal	85.66	3214	L. F. Livingston, postmaster Postage	30.00
3197	Miss Annie Jacks Commission on advertising orders.....	58.50	3215	Miss Winifred H. McLean Reporting the general meetings, proceedings of the House of Delegates, and minutes of the Council at the Atlanta session, April 25-28, 1939; furnished original and carbon copies	132.50
3198	Bureau of Foreign and Domestic Com. One book—statistical abstract of the United States, 1938 Edition.....	1.50	3216	Mrs. Victor H. Bassett Cost of copy of will of Dr. Alexander Jones of Lexington, for the History of Medicine in Georgia.....	9.52
3199	L. F. Livingston, postmaster Postage	30.00	3217	L. F. Livingston, postmaster Deposit to pay postage on business reply envelopes	10.00
3200	J. D. Grant Storage, work and transferring of booths for the scientific exhibit at the Atlanta session, April 25-23, 1939	278.55	3218	Webb & Martin, Inc. Printing and mailing 2,300 copies of the June, 1939, issue of The Journal....	324.99
3201	Western Union Telegraph Co. Telegraph account to May 1, 1939.....	2.10	3219	Cash For post office order and fee to copy-right The Journal.....	2.06
3202	J. F. Thompson Engraving Co. 2,000 Letterheads and 2,000 Envelopes for the president, Wm. H. Myers, M.D.	38.50	3220	L. F. Livingston, postmaster Six \$1,000 U. S. Government Savings, 10 Year Bonds, \$4,500	
3203	Cash For post office money order and fee to copyright The Journal	2.06	3221	L. F. Livingston, postmaster Postage	30.00
3204	Webb & Martin, Inc. Printing and mailing 2,300 copies of the May, 1939, issue of The Journal....	324.99	3222	J. L. Campbell, M.D., chairman, Cancer Commission Expenses for postage, stationery, stenographic work and mimeographing for the Cancer Commission.....	150.00
3205	Southern Press Clipping Bureau News clippings furnished during April and May, 1939	10.00	3223	Photo Process Engraving Co. Cuts for illustrations and work on electros for advertisers	58.90
3206	Empire Letter Shop Multigraphing 150 forms for the Committee on Public Policy and Legislation	2.50	3224	Southern Bell Tel. & Tel. Co. Telephone account to June 21, 1939	6.00
3207	Photo Process Engraving Co. Cuts for illustrations and work on electros for advertisers	32.02	3225	Addressograph Sales Agency Addressograph ribbon and work on machine	3.68
3208	Darby Printing Co.		3226	Edgar D. Shanks, M.D. Salary for Secretary-Treasurer for June, 1939	200.00
			3227	H. L. Rowe Salary for Executive Secretary for June, 1939	192.50
			3228	Webb & Martin, Inc.	

250 Reprints of officers and committees for 1939-40	9.50	Commission on advertising orders.....	7.16
3229—Darby Printing Company		3251—Bryan, Middlebrooks & Carter, Attys.	
Printing 750 copies of the Medical News and a balance of \$1 on other printing	23.00	Fee for E. J. Haar, Atty., in suit of Mrs. Myrtice Turner vs. Dr. L. W. Williams, Savannah	50.00
3230—Ansley Hotel		3252 Photo Process Engraving Co.	
June account at hotel for president and president-elect	5.00	Cuts for illustrations and work on electros for advertisers.....	11.17
3231—Western Union Telegraph Co.		3253—Southern Bell Tel. & Tel. Co.	
Telegraph account	1.66	Telephone account to August 21, 1939	6.60
3232—L. F. Livingston, postmaster		3254—Edgar D. Shanks, M.D.	
Postage	30.00	Salary for Secretary-Treasurer for August, 1939	200.00
3233—Cash		3255—H. L. Rowe	
For post office money order and fee to copyright The Journal.....	2.06	Salary for Executive Secretary for August, 1939	192.50
3234—Webb & Martin, Inc.		3256—Forrest and Frank Adair	
Printing and mailing 2,300 copies of the July, 1939, issue of The Journal....	324.99	Two months' rent on rooms 22-23 at 105 Forrest Avenue, N. E., Atlanta	50.00
3235—William H. Myers, M.D.		3257—L. F. Livingston, postmaster	
Honorarium for the President, 1939-1940	300.00	Postage	30.00
3236—Everhart Surgical Supply Co.		3258—Darby Printing Co.	
One electric pointer. \$12.50, less 20% discount	10.00	Printing 750 copies of the Medical News, September, 1939, issue.....	22.00
3237—Southern Press Clipping Bureau		3259—May's Laundry	
News clippings for June and July, 1939	10.00	Dry cleaning rug	2.75
3238 The Tidwell Co.		3260—Wynne Sign and Advertising Co.	
Coupons for 4 boxes carbon paper.....	10.00	Painting sign on office door at 105 Forrest Avenue, Atlanta	3.50
3239—Edgar D. Shanks, M.D.		3261—Fulton County Medical Society	
Salary for Secretary-Treasurer for July, 1939	200.00	Rent for June, July and August, 1939	41.25
3240—H. L. Rowe		3262—William Anderson	
Salary for Executive Secretary for July, 1939	192.50	Special work as janitor and helping to pack to move.....	5.00
3241—Southern Bell Tel. & Tel. Co.		3263—Walker Warehouse, Inc.	
Telephone account to July 21, 1939....	6.00	Moving from 38 Prescott St., N. E., to 105 Forrest Avenue, N. E., Atlanta	24.50
3242—Darby Printing Co.		3264 Associated Mutuals, Inc.	
Printing 750 copies of the August, 1939, issue of the Medical News.....	22.00	Premium on Fire Insurance Policy No. 45755 for \$2,000 for one year to September 8, 1940.	28.47
3243 Photo Process Engraving Co.		3265—Cash	
Cuts for illustrations and work on electros for advertisers	12.99	For post office money order and fee to copyright the September, 1939, issue of The Journal	2.06
3244—A. B. Dick Co.		3266—Southern Bell Tel. & Tel. Co.	
Maintenance contract on mimeograph machine	7.00	Charge for moving telephone and change in billing date to September 11, 1939	6.03
3245—American Surety Co.		3267—Walter W. Brown Publishing Co.	
Premium on surety bond for Executive Secretary to September 6, 1940 ..	5.00	Printing and mailing 2,150 copies of the September issue of The Journal	307.04
3246—Cash		3268—Ansley Hotel	
For post office money order and fee to copyright The Journal	2.06	Balance on account for the Committee on Public Policy and Legislation—meeting August 11, 1939.....	5.80
3247 L. F. Livingston, postmaster		3269—Searey & Co., Inc.	
Postage	30.00	Premium on \$500 fire insurance on equipment for the scientific exhibit for one year to September 16, 1940 ..	12.45
3248—Webb & Martin, Inc.		3270—L. F. Livingston, postmaster	
Printing and mailing 2,150 copies of the August, 1939, issue of The Journal	313.94	Postage	30.00
3249—Webb & Martin, Inc.			
Printing 3,000 pamphlets for the Woman's Auxiliary	27.50		
3250—Miss Annie Jacks			

3271—Miss Annie Jacks Commission on advertising order	7.00	3292—Edgar D. Shanks, M.D. Salary for Secretary-Treasurer for October, 1939	200.00
3272—Davison-Paxon Co. Mirror, waste basket, shades and vene- tian blinds	20.11	3293—H. L. Rowe Salary for Executive Secretary for October, 1939	192.50
3273—Dahl's Floral design for Dr. Arthur G. Fort, past president of the Association.....	7.50	3294—L. F. Livingston, postmaster Postage	30.00
3274—L. F. Livingston, postmaster Deposit to pay postage for mailing The Journal	25.00	3295—Darby Printing Co. Printing 750 copies of the Medical News, November issue.....	22.00
3275—Electrical Repair Service Co. Labor and material for wiring office....	3.45	3296—Western Union Telegraph Co. Telegraph account to November 1, 1939	1.22
3276—Southern Press Clipping Bureau News clippings for August and Sep- tember, 1939	10.00	3297—Cash Post office order and fee to copyright The Journal	2.06
3277—Ivan Allen-Marshall Co. Wrapping paper, twine, book for reg- istering names of members, index tabs, pencils, pens, erasers, rubber bands, mimeograph paper and cus- pidor	18.60	3298—Walter W. Brown Publishing Co. Payments on reprints of Dr. J. L. Campbell's article for Public Rela- tions Bureau	50.00
3278—A. B. Dick Co. Stencils and correction fluid	4.05	3299—J. L. Campbell, M.D. For postage to mail copies of the re- prints from The Journal on Cancer (Cancer Commission and Public Rela- tions Bureau)	24.00
3279—Edgar D. Shanks, M.D. Salary for Secretary-Treasurer for September, 1939	200.00	3300—Walter W. Brown Publishing Co. Printing and mailing 2,150 copies of the November, 1939, issue of the Journal	307.04
3280—H. L. Rowe Salary for Executive Secretary for September, 1939	192.50	3301—L. F. Livingston, postmaster Postage	30.00
3281—Bryan, Middlebrooks & Carter, Attys. Fee for John T. Coyle, Atty., in suit of N. W. Wallace vs. Dr. C. C. Bran- nen, Moultrie	100.00	3302—Forrest and Frank Adair Rent from November 10, 1939, to January 10, 1940	50.00
3282—L. F. Livingston, postmaster Postage	30.00	3303—L. F. Livingston, postmaster Deposit for postage to mail The Journal	25.00
3283—Cash Post office order and fee to copyright The Journal	2.06	3304—Southern Press Clipping Bureau News clippings for October and No- vember, 1939	10.00
3284—Addressograph Sales Agency Two addressograph ribbons.....	1.87	3305—Ivan Allen-Marshall Co. Typewriter paper	4.90
3285—Southern Bell Tel. & Tel. Co. Telephone account to October 11, 1939	6.00	3306—Southern Bell Tel. & Tel. Co. Telephone account to November 11, 1939	7.55
3286—Darby Printing Co. Printing 750 copies of the October, 1939, issue of the Medical News.....	22.00	3307—Atlanta Envelope Co. 1,090 Open end clasp envelopes.....	15.31
3287—Walter W. Brown Publishing Co. Printing 2,000 membership cards for 1940	15.00	3308—Edgar D. Shanks, M.D. Salary for Secretary-Treasurer for November, 1939	200.00
3288—Walter W. Brown Publishing Co. Printing and mailing 2,150 copies of the October, 1939, issue of The Journal	307.04	3309—H. L. Rowe Salary for Executive Secretary for November, 1939	192.50
3289—E. B. Claxton, M.D. Half of fee for R. I. Stephens, Atty., in suit of Mrs. Bettie Lee Smith vs. E. B. Claxton, M.D., Dublin.....	75.00	3310—Electrical Repair & Service Co. Work and material for fixing lights in office	5.50
3290—Walter W. Brown Publishing Co. 3,000 Health Examination Blanks	14.75	3311—Darby Printing Co. Printing 750 copies of the December, 1939, issue of the Medical News.....	22.00
3291—Photo Process Engraving Co. Cuts for illustrations.....	19.89	3312—Reeves Studios, Inc. Two enlarged, framed photographs of	

the old Atlanta Medical College for the Atlanta Historical Society.....	17.50	Mrs. Nelson vs. Dr. W. P. Coffee, Dr. J. E. Smith and Dr. Ware by the following attorneys: C. E. Troutman, LaFollette, Tenn., and Graham Wright, Rome	15.00	
3313—L. F. Livingston, postmaster Deposit to pay postage on business reply envelopes	10.00	Gordon Smith in suit of Kuttner vs. Dr. Swanson.....	25.00	1,040.00
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3352—Cash	
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3354—L. F. Livingston, postmaster	
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TWO CASE REPORTS OF INTEREST FROM THE DIAGNOSTIC STANDPOINT

PAUL S. KEMP, M.D.
Macon

The case reports here presented represent diagnostic problems principally because of the rarity of such clinical manifestations of disease. Because of this rarity we may be unfamiliar with the clinical picture and laboratory data associated in these conditions. The only manner in which the profession can hope to become familiar with such entities is for those who are fortunate enough to encounter them to bring as complete description as possible before the profession. Constant repetition of this process will eventually lead to a clear understanding on the part of all of us, of the criteria necessary for the diagnosis of these unusual states. I was not aware of the existence of one of these entities, namely, bacillus welchii septicemia, until I saw the patient here reported, when the pathologist made the diagnosis for me.

A brief review of the literature indicates that not more than about 100 cases of bacillus welchii septicemia have been reported. This does not, however, represent the true incidence of the condition, for since seeing this patient I have learned of several others who have been seen in other places, none of whom has been reported. Furthermore, patients with this condition are not diagnosed

A new patient was admitted to the obstetrical service of Dr. Evelyn Swilling, Macon Hospital, 2 a.m., Nov. 2, 1938, with chief complaints of pain across lower abdomen, and bloody vaginal discharge. Present illness: Patient stated that she missed her regular menstrual period in August, 1938, and again in September, 1938. She attempted to provoke menstruation by taking tincture of iron and camphor gum by mouth. This attempt was unsuccessful. About a week before admission she inserted the ear piece of a pair of eye glasses into her uterine cavity. About 24 hours afterwards she began to have pains across the lower abdomen, and these continued. For three days before admission to the hospital she had a profuse bloody vaginal discharge. Physical examination showed a pale white female 25 years old lying quietly in bed. Temperature was 102.4, pulse 140, respiration 28, blood pressure 95/60. There was slight distention of the abdomen and marked tenderness and rebound pain over the abdomen below the umbilicus. Physical examination was otherwise essentially negative. The patient's condition upon admission was considered fair.

Course: At 9 a.m. on the day of admission it was noted that there was a deep flush of the skin of the face. This same peculiar flush was present to a lesser degree over the entire body and extremities. At 12 noon it was noticed that the original erythema was merging into a pinkish purple color. At 12:15 p.m. I was called on the phone and asked to see the patient in consultation immediately. The resident physician's telephone conversation with me graphically described the sequence of events so far as the patient's skin was concerned. He said he had a patient, a woman, he wanted me to see. She was, according to his story, pale on admission at 2 a.m., began to turn red around 9 a.m., and a few minutes after noon, was turning purple.

I saw the patient at 1 p.m. At that time she was obviously in extremis. She lay in bed breathing with the rapid deep respiration of air hunger. Her eyes were wide open. She was still conscious and able to respond faintly to questions. The entire skin was a beautiful lilac color, except at the end of the nose, at the point of the chin, and over the malar eminences. In these locations it was a deep black purple. The conjunctivæ were almost chocolate colored. There was some bleeding from the mucous membrane of the mouth and gums. Chest was normal; heart sounds were somewhat faint, but otherwise normal. Pulse was about 160. Hemoglobin was 40 per cent, Sahli. It was impossible to do an accurate erythrocyte count because of the tremendous amount of blood pigment floating free in the plasma. Blood culture was taken by the usual method, and later reported negative. The patient was catheterized and black urine was obtained. Microscopic examination proved this color to be due to the presence of hemolyzed blood. At 2:20 p.m., the patient expired, apparently of respiratory failure. The clinical impression was: (1) Puerperal sepsis. (2) Overwhelming hemolytic paroxysm induced by an unknown poison. Necropsy was obtained; the report in full follows:

Necropsy findings: The body was that of a well-developed, fairly well nourished white female. The entire skin was brick-red in color. There were ecchymoses

of both cubital fossæ.

There were about 300 cc. of thin reddish fluid in the peritoneal cavity. The heart was normal in size; the valves were normal. The entire heart muscle was orange in color. The lungs were deep orange in color. There were no areas of consolidation. The spleen was engorged and slightly enlarged. The liver was enlarged and brick-red in color. The entire gastro-intestinal tract was reddish in color. The pancreas was normal. The kidneys were reddish orange; the capsules stripped with ease and the medulla and cortex appeared normal. The bladder contained about 20 cc. of brick-brown urine. The suprarenals were normal. The uterus was enlarged to the size of a three months' pregnancy. There was a perforation the size of a lead pencil about 1 inch above the right cornu. The entire uterus was necrotic. The tubes and ovaries were normal. Splenic smears made at the time of the necropsy showed numerous large gram positive bacilli. Culture from the heart's blood showed similar organisms as did smears from the liver. Milk culture from the liver showed stormy fermentation typical of *Bacillus welchii*.

Microscopic sections of the liver showed some atrophy of the liver cords. There were numerous masses of large gram positive bacilli. Similar organisms could be found in many of the blood vessels. There was considerable hydropic degeneration of liver cells. The kidney showed extensive hydropic degeneration, most marked in the cells of the convoluted tubules. There were numerous brown pigment granules scattered more or less diffusely through the sections. Sections of the spleen revealed the red pulp to be congested with shadows of red cells, the pigment of which had apparently been leached out. Section of the uterus revealed extensive necrosis of the superficial layers. There were multiple masses of bacteria scattered through the wall. There was considerable edema, with separation of the muscle bundles of the myometrium.

Conclusions: (1) Induced abortion; (2) Perforation and gangrene of the uterus; (3) Hemoglobinuria; (4) *Bacillus welchii* septicemia.

This patient presented a classic picture of fulminating post-abortion *Bacillus welchii* septicemia. Had any of us been familiar with this entity, the diagnosis should have been obvious. So far as I was able to ascertain no clinician in Macon was aware of the existence of such a disease. Fortunately our pathologist had seen a similar case and was able to do the culture work necessary to establish the diagnosis.

The characteristic features of this case which, in my opinion, clearly differentiate it from everything else were the sequence of (1) self-induced abortion, followed by (2) obvious puerperal sepsis, and (3) a characteristic sequence of skin changes.

Subacute bacterial endocarditis involving the pulmonary valve alone is quite un-

usual. A glance through the Quarterly Cumulative Index for the past three years reveals only one case reported in the English and American Literature, and that one without postmortem examination.

New patient admitted to the medical service of Drs. I. H. Adams and Paul S. Kemp, Macon Hospital, Mar. 16, 1937. Patient was a colored male 15 years old. Chief complaints were chills, fever, and pain under the breast bone. The patient stated that he felt very well until about a month before admission. He first noticed that he was weak and that he tired easily.

About a week or ten days before coming to the hospital he began to have chills and fever. He was uncertain of the exact date of his first chill. Since his first chill, he had one every other night and he said that within an hour of each chill he burned up with fever. The patient had been up and around the house until he began to have chills; since then he had been unable to get out of bed. About a week after taking to bed he noticed a pain under his breast bone. This, he said, comes and goes, but never radiated into his abdomen, up into his neck, or down either arm. When asked to put his finger where he hurt, he indicated his sternum, just below the angle of Lewis. Some pain had been felt under his right lower ribs for five days, which had become severe and was made worse by deep breathing or coughing.

Past medical history: Patient had been generally healthy until the onset of his present illness. Had usual diseases of childhood. No history of chorea, rheumatic fever, diphtheria, or scarlatina. Past history otherwise insignificant. Family history insignificant. Review of systems essentially negative.

Temperature on admission 103.8 degrees. Pulse 130. Blood pressure 100/70. Physical examination revealed a poorly nourished and poorly developed Negro male some 15 years old lying quietly in bed. No apparent pain or respiratory distress. The skin was hot and dry. No eruptions. Head: essentially negative. Thorax: intercostal spaces prominent. The two sides of the chest moved freely and equally with respiration. No abnormalities of the vocal fremitus. Chest everywhere resonant to percussion. At the right base posteriorly were heard sticky and moist rales. Breath sounds were somewhat exaggerated over the entire left chest. Heart: P. M. I. in fifth intercostal space, one centimeter outside midclavicular line. Rate 130, rhythm regular. The left border of relative cardiac dullness began in the fifth intercostal space one centimeter outside the midclavicular line. Absolute cardiac dullness was encountered one centimeter inside the midclavicular line. Unable to percuss the heart beyond the right sternal border. A loud blowing systolic murmur was heard over the entire precordium, and in the left axilla. This murmur was loudest in the second left intercostal space at the pulmonary area. No increase in the retromanubrial dullness. Abdomen, below the plane of the chest: no muscular rigidity, no tenderness, no rebound pain; no masses palpated; unable to feel the liver or spleen. Extremities: essentially negative. Neurologic: essentially negative.

Laboratory reports were as follows: Urine showed a trace of albumen, and one plus pus cells; otherwise essentially negative. Red blood count 4,120,000, hemoglobin 75 per cent. White blood cells 15,050. Small lymphocytes, 21 per cent; large lymphocytes, 4 per cent; neutrophils 75 per cent. Malaria negative. Feces negative for parasites and ova. Sputum was negative for tubercle bacilli. Blood sugar was 82.9 mg.; N. P. N. 93.3 mg.; Creatinine 1.7 mg. Blood Wassermann was negative. Chest plate showed slight generalized enlargement of the heart. Subsequent specimens of urine showed considerable microscopic blood. P. S. P. showed output of 35 per cent in the first hour, and 20 per cent in the second hour. The State Public Health Laboratory reported blood cultures negative. Agglutination for undulant fever was negative.

Course: On the twentieth day after admission the red blood count had fallen to 1,540,000; hemoglobin to 35 per cent. Blood cultures by our own laboratory were consistently negative. At the end of the first week in the hospital physical findings in the patient's lungs had increased considerably, and he complained rather bitterly of pain over the right lower ribs. The rales heard on admission had increased. They could now be heard over the left lower chest also. Bronchovesicular breathing was heard over the right lower lobe posteriorly. At the inferior angle of the right scapula distant tubular breathing could be heard. There was slight impairment to percussion of the lower right chest posteriorly. At the end of the first hospital week the impression of the staff was: (1) Subacute bacterial endocarditis of the pulmonary valve superimposed upon a congenital pulmonary valve lesion; (2) Multiple pulmonary infarcts; (3) Uremia.

Treatment was entirely symptomatic. The patient ran a septic type of temperature curve varying from 99 to 105 degrees. He gradually grew worse and on the forty-ninth hospital day he died. Necropsy was obtained.

Significant findings at necropsy were as follows: Heart showed massive vegetations on two of the pulmonary cusps; the third was destroyed and included in one of the masses. There were no other marked changes in the heart except subepicardial petechiae. There were numerous recent infarcts throughout both lungs. There was no evidence indicative of emboli anywhere except in the lungs. A culture of the heart's blood was taken at postmortem but, unfortunately, the report was lost. Anatomic diagnosis: (1) Vegetative endocarditis of the pulmonary valve; (2) Multiple recent hemorrhagic infarcts of both lungs; (3) Petechial subepicardial hemorrhages; (4) Chronic nephritis.

The principal points in which this case differs from subacute bacterial endocarditis, as ordinarily encountered, are: (1) Negative blood cultures; (2) Absence of embolic phenomena in the general circulation; and (3) Localization of the murmur over the pulmonary valve. Confusing was the microscopic hematuria, making one think of multiple glomerular embolization with associated interventricular septal defect.

THE PRESIDENT'S DEPARTMENT

THE WOMAN'S AUXILIARY

It has been said that the Woman's Auxiliary had its beginning in 1917 at a reception of doctors' wives at the Southern Medical Association, Dallas, when Mrs. John O. McReynolds, of Dallas, asked one of the guests how she liked Dallas. "Very much, indeed," she replied, "I have lived here thirty years."

Thinking that something should be done about physicians' wives knowing each other better, during the meeting of the State Medical Association of Texas, in May, 1917, at Mrs. McReynolds' home, the Auxiliary to the Dallas County Medical Society was formed. Their original slogan was: "Our husbands, our homes, our communities, our country," a very worthy slogan indeed.

The following year a state-wide Texas Auxiliary was formed, and in 1922, at the St. Louis meeting of the American Medical Association, Mrs. Samuel Clark Red, of Houston, organized and was elected first president of the Woman's Auxiliary to the American Medical Association.

In 1924 the Woman's Auxiliary to the Medical Association of Georgia was organized at Augusta, and Mrs. James N. Brawner, of Atlanta, was chosen for its first president. At that meeting were twenty-three charter members from seven county organizations. Since that time it has grown progressively, to such an extent that at the close of this year, April, 1940, under the able leadership of Mrs. Eustace Allen, of Atlanta, the immediate past-president, it now has 47 auxiliaries; 38 county auxiliaries, representing 58 counties, and 9 district auxiliaries, representing 118 counties; and a total membership of 632. This remarkable growth has been due to the untiring efforts of its past sixteen presidents and other officers, each adding a little more each year.

The amount of good the Auxiliary has done and the enormous amount of work that it is doing for "their husbands, their communities, and their country," is shown by the following summary taken from the report to the House of Delegates to the Medical Association of Georgia, in Savannah,

made by the retiring president, Mrs. Eustace Allen:

Twenty-four thousand copies of health literature on tuberculosis, venereal diseases, heart diseases, cancer, communicable diseases, maternal and child health and malnutrition were distributed during the year; 22 polio health talks were sponsored; 200 announcement blotters and 50 posters of the A.M.A. radio programs were distributed; 151 programs on health education were given for county auxiliaries; 187 members held chairmanships of health in other organizations; 39 health films were shown throughout the State in schools, at parent-teacher meetings, in orphanages, and to industrial groups, etc.; the health film library fund was increased; 108 programs for our public relations program were sponsored and prepared by the Auxiliary; 210 subscriptions to Hygeia were secured by them and the student loan fund has been increased until it is now \$2,079.51, available to students of medicine.

The Auxiliary has prompted various kinds of philanthropic work and has assisted in the immunization of school children against diphtheria, typhoid fever and smallpox; it has sponsored a children's ward in a charity hospital, maintained a bed in a tuberculosis sanatorium, supplied clothes and toys for needy children, raised money for the empty stocking fund, maintained a children's playground, helped in the sale of Christmas seals and in Red Cross work; each Auxiliary has taken part in the cancer drive and has aided materially in local hospital work.

Their research committee has obtained much historical data about physicians and their activities in Georgia. They have made Doctors' Day a most pleasant one, and have assisted in entertaining many county, district and State society meetings.

After reviewing these accomplishments one wonders how they did all of this and how we ever did without an Auxiliary. We doctors are beginning to realize fully not only how much the Auxiliary has added to the "esprit de corps" of our organization and the pleasure of our meetings, but that

it has been of inestimable value in carrying the message of medicine to the people through their affiliation with lay organizations.

Mrs. H. G. Banister, of Ila, the incoming president, has already planned a most energetic and comprehensive plan of activities for this year, and I am sure she will carry forward the aims and objectives of both the Auxiliary and the Medical Association of Georgia. May we all give her our enthusiastic support so that within the near future every county in the State will belong to this worthy organization.

J. C. PATTERSON, M.D.

BLEEDING FROM THE APPENDICEAL ARTERY

Report of Case

FRANK ESKRIDGE, M.D.

I. B. CANTOR, M.D.

Atlanta

In spite of the fact that acute appendicitis is a common occurrence there are certain unusual features about our case that should be of interest to the surgeon.

A 28 year old white male, radio mechanic, was treated at home by his physician three weeks before his admission to the hospital. His first complaint was a dull aching pain in the midabdomen centered around the umbilicus. The pain was nonradiating in character and seemed to become progressively more intense. This condition was accompanied by nausea and emesis of undigested food. His feces were dark brown, of a toothpaste-like consistency and were never bloody, or tarry. Since the onset of his symptoms occurred a few hours after eating a Hamburger sandwich, his physician thought he had an atypical case of food poisoning. Following conservative management the patient became more exhausted; the pain became more intense, and he continued to vomit any food taken by mouth. Three weeks after the onset of his symptoms he was seen by us, in the hospital.

His past history was essentially negative except for a sharp stabbing pain in the right lower quadrant of his abdomen more than three years ago, which was accompanied by emesis of undigested food. This pain was nonradiating in character, lasted for more than two days and was unassociated with any dysuria, hematuria or frequency of urination. This episode subsided without any untoward events.

Physical examination at the time of admission revealed a well-developed, well-nourished 28-year-old white male, who appeared to be quite toxic and presented an anxious, pinched, hippocratic type of facies.

His pulse was 118, and fleeting in character. His respirations were 24, regular and full. The blood pressure was 112/80. His temperature by mouth was 102.2 F. His skin presented a sallow color and felt cold and clammy. Examination of his face, eyes, nose, and mouth revealed no disease. His heart and lungs were normal. The most interesting findings were confined to his abdomen, which was extremely distended and tender to palpation. The tenderness was diffuse in character and presented no points of maximum sensitivity. Rebound tenderness was present and quite marked through his whole abdomen. Auscultation revealed hyperactive peristalsis. Because of the extreme distention it was impossible to accurately percuss or attempt to palpate the liver, or spleen. No scars, herniation, or shifting fluid levels could be ascertained. The abdominal reflexes were present. His extremities presented no edema or limitation of motion and his reflexes were normal. A rectal examination failed to reveal any points of maximum tenderness along the course of the bowel. The laboratory report showed 17,750 W.B.C.; 80 P.M.N.; 16 S.L.; 2 L.L.; 1 Eos; 3,900,000 R.B.C.; and 70 per cent hemoglobin. The urine was amber in color and had an alkaline reaction; the S. G. was 1.020 and there was no albumin, acetone, or diacetic acid; there was a trace of sugar. Microscopic examination showed granular and hyaline casts, an occasional pus cell, a few crystals and 1-2 epithelial cells.

A diagnosis of an acute surgical abdomen was made with the following possibilities: acute perforated appendicitis with generalized peritonitis; perforated peptic ulcer; or acute cholecystitis.

At operation about 500 cc. of free blood was encountered upon entering the peritoneal cavity and a large hematocele, the size of an orange, presented itself in the right ileocecal region. The appendix was about 8 cm. long, necrotic, and the mesoappendix had been severed by the process of necrosis from the appendix resulting in a severance of the appendiceal artery, which was spurting free blood into the peritoneal cavity. A routine appendectomy was performed; the appendiceal artery was securely ligated, and the patient was returned to his room in good condition.

His postoperative course was of a rather stormy nature, his temperature ranging from 100 to 103 F. However, with the aid of blood transfusions and general supportive measures he was discharged on the twenty-fifth postoperative day.

Concentrated solutions of sucrose (sugar), often injected into the vein to reduce increased blood pressure within the skull, should not be administered to patients with kidney damage, and large or repeated doses by vein should be avoided in any case, W. A. D. Anderson, M.D., and W. R. Bethea, Jr., Memphis, Tenn., warn in *The Journal of the American Medical Association* for May 18.

They report the finding of kidney lesions during post-mortem examination of six patients given such solutions. Although the degree of functional damage from such lesions has not yet been determined, it seems probable that there is significant change in the kidneys' efficiency, the authors believe.

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Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

JUNE, 1940

CANCER

The number of reported deaths from cancer show a steady increase, although the mortality rate is decreasing. The latest figures from the Bureau of the Census (March 12, 1940) show that 14,786 more people died of cancer in the United States in 1938 than did in 1934. Males showed a greater increase than females. During the same period there was an increase of 1,309 in deaths from cancer of the breast. Also, during the same period there was a decrease of 42.3 per hundred thousand population in deaths from all causes in the United States and 86.6 in Georgia. Deaths from respiratory tuberculosis decreased 6.5 in the United States and 6.6 in Georgia.

The increase in cancer deaths in Georgia has not been as marked as for the country as a whole. The cancer deaths represent an increase of 8.4 per hundred thousand in the United States but in Georgia only 5 per hundred thousand. Cancer of the breast increased 0.7 in the United States as a whole and 0.6 in Georgia.

These trends have been noticeable since the beginning of the twentieth century. From 1900 to 1938, there was a decrease of 684.1 per hundred thousand of deaths from all causes, and a decrease of 135.9 from respiratory tuberculosis but an *increase* of 50.6 from cancer. The actual increase of the cancer percentage would not be so significant had there not at the same time been so much greater *decrease* in other diseases and in deaths from all causes. Some persons argue there are no more cases of cancer now, but that our means of recognizing and diagnosing them are better and that the increase is not an actual but an apparent one. The census figures seem to refute such an argument.

Irradiation, either by radium or x-ray, is practically the only new method of treating such conditions that has been developed

during this period. Chemotherapy has been used in various forms, notably in the use of the salts of heavy metals intravenously, with varying results. At present the effects of maintaining a lowered body temperature are being noted. The use of salts of ascorbic acid intravenously is being tried, this apparently representing the first constructive treatment for cancer that has ever been tried. All other methods have been either an attempt to eradicate or destroy the growth. After all is said and done, however, the only two universally used and recognized means are surgery and irradiation.

Education of the laity and of the profession has been widespread and beneficial. The noteworthy reduction in deaths from tuberculosis attests this. Breast lesions seen by the average doctor are in a much earlier stage now than formerly. We used to consider the attachment of the skin to an underlying tumor to be one of the early signs of cancer of the breast. Now we had rather consider this a late case and if we are to accomplish much in reducing the number of deaths from cancer of the breast, nodules must be removed before the skin shows attachment.

The introduction of punch and aspiration biopsies from lesions in the breast was made during this period. These have not, fortunately, gained wide use. They are dangerous procedures. A negative result means nothing and a positive one, even in the hands of an experienced pathologist, is not reliable. The danger of spreading the disease to other parts of the body is obviously greater when such a lesion has been pierced by a sharp needle. Should the report be negative, few surgeons would fail to remove the lump. These procedures as at present used are dangerous adjuncts in the treatment of cancer.

The treatment of cancer of the breast should be an individual matter. There should be a norm, which consists of pre-operative irradiation, radical surgery followed by postoperative irradiation. Not every patient should receive this cycle. Every patient is entitled to irradiation but many should not have surgery. If we are limited to one or the other, surgery is prob-

ably a more effective means than irradiation but a combination of both is best used in most cases.

The same treatment should not be offered to a woman of 30 as to a woman of 50. Likewise, we are approaching the era when radical surgery in older patients will probably be supplanted by irradiation followed by a palliative operation.

The question of irradiation to the ovaries is still a mooted one. It has two advantages. In the first place, it prevents any future pregnancies, and in the second place, it seems logical that it would render breast tissue less active. Until proven otherwise it appears that an artificial menopause should be produced in young women who have cancer of the breast.

Education of both the profession and laity should continue and the individual doctor should reassure but never ridicule the patient who has developed a cancer phobia. Disabuse such a patient's mind of the fact that they have cancer, but congratulate them on seeking an authoritative opinion on an innocent lesion.

WM. PERRIN NICOLSON, JR., M.D.

MEDICAL ASSOCIATION OF GEORGIA

Ninety-Second Annual Session

Macon

May 13, 14, 15, 16, 1941

OFFICERS AND COMMITTEES, 1940-1941

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Chas. W. Roberts (1941-42).....Atlanta
Alternate, Marion C. Pruitt.....Atlanta
Olin H. Weaver (1940-41).....Macon
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2. C. K. Wall (1942).....Thomasville
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5. W. A. Selman (1943).....Atlanta
6. H. D. Allen, Jr. (1943).....Milledgeville
7. Z. V. Johnston (1943).....Calhoun
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3. J. Cox Wall (1942).....Eastman
4. Enoch Callaway (1942).....LaGrange
5. Marion C. Pruitt (1943).....Atlanta
6. H. C. Weaver (1943).....Macon
7. D. Lloyd Wood (1943).....Dalton
8. W. F. Reavis (1943).....Waycross
9. J. K. Burns (1941).....Gainesville
10. C. E. Wills (1941).....Washington

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Richard Binion (1943).....Milledgeville
Edgar D. Shanks, *Secretary-Treasurer*.....Atlanta

Public Policy and Legislation

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Edgar H. Greene (1943).....Atlanta
J. L. Campbell (1942).....Atlanta
Edgar D. Shanks, *Secretary-Treasurer*.....Atlanta
T. F. Abercrombie, *Director, State Department of Public Health*.....Atlanta

Medical Defense

Marion C. Pruitt, *Chairman* (1943).....Atlanta
B. H. Minchew (1944).....Waycross
A. R. Rozar (1941).....Macon
W. A. Selman, *Chairman of Council*.....Atlanta
Edgar D. Shanks, *Secretary-Treasurer*.....Atlanta

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D. Henry Poer, *Chairman* (1943).....Atlanta
Cleveland Thompson (1944).....Millen
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R. H. Oppenheimer (1942).....Atlanta

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C. W. Roberts.....	Atlanta
Dan Y. Sage.....	Atlanta
Jno. W. Simmons.....	Brunswick
C. H. Watt.....	Thomasville
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R. V. Martin.....	Savannah
C. M. Sharp.....	Alto
H. C. Atkinson.....	Macon
R. C. Maddox.....	Rome

Scientific Exhibit

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Fred A. Mettler, Co-Chairman.....	Augusta
Robert Drane.....	Savannah
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Lee Howard.....	Savannah
Jos. Yampolsky.....	Atlanta
Helen W. Bellhouse.....	Thomasville
R. N. Johnson.....	Rome
Wm. F. Lake.....	Atlanta
B. E. Collins.....	Waycross
John E. Walker.....	Columbus
Edgar R. Pund.....	Augusta

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D. Lloyd Wood.....	Dalton
Kenneth D. Grace.....	LaGrange
Ralph H. Chaney.....	Augusta
M. E. Winchester.....	Brunswick
Eustace A. Allen.....	Atlanta

Post-Graduate Study

G. Lombard Kelly.....	Augusta
Russell H. Oppenheimer.....	Atlanta
Richard Torpin.....	Augusta
Olin S. Cofer.....	Atlanta
H. C. Sauls.....	Atlanta
Roy A. Hill.....	Thomasville
W. F. Reavis.....	Waycross

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*Pediatrics**State Board of Health*

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*Appendicitis**Reduction of Mortality*

T. C. Davison, Chairman.....	Atlanta
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C. K. Wall.....	Thomasville
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Kenneth S. Hunt.....	Griffin
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F. B. Rawlings.....	Sandersville
Lester Harbin.....	Rome
Kenneth McCullough.....	Waycross
Grady N. Coker.....	Canton
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Study of Maternal Mortality and Infant Deaths

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C. B. Upshaw.....	Atlanta
Richard Torpin.....	Augusta
A. H. Hilsman.....	Albany
H. J. Bickerstaff.....	Atlanta

FRATERNAL DELEGATES TO OTHER

STATE MEETINGS

Alabama: Don F. Cathcart, Atlanta, and A. R. Rozar, Macon.

Florida: Wm. W. Anderson, Atlanta; W. S. Goldsmith, Atlanta; and Chas. R. Andrews, Canton.

North Carolina: Clarence L. Ayers, Toccoa, and C. M. Sharp, Alto.

South Carolina: W. F. Reavis, Waycross; Grady N. Coker, Canton; and A. J. Waring, Savannah.

Tennessee: D. Lloyd Wood, Dalton, and Lester Harbin, Rome.

STATE BOARD OF MEDICAL EXAMINERS

Claude Griffin, President.....	Atlanta
Harold P. McDonald, Vice-President.....	Atlanta
H. G. Huey.....	Homerville
R. F. Wheat.....	Bainbridge

(Continued on Page 339)

WOMAN'S AUXILIARY : OFFICERS 1940-1941

President—Mrs. H. G. Banister, Ila.	Recording Secretary—Mrs. Loren Gary, Jr., Shellman.
President-elect—Mrs. Lee Howard, 625 East 44th Street, Savannah.	Treasurer—Mrs. W. Bruce Schaefer, Toccoa.
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Third Vice-President—Mrs. D. Lloyd Wood, Dalton.	Historian—Mrs. W. A. Selman, 760 Penn Ave., N. E., Atlanta.
Press and Publicity—Mrs. J. Harry Rogers, 134 Huntington Road, N. W., Atlanta.	

PRESIDENT'S REPORT TO THE HOUSE OF DELEGATES

Mr. President and Members of the House of Delegates:

This is the Ninth Annual report of the Woman's Auxiliary to the Medical Association of Georgia, and is a record of the work in the sixteenth year of the Auxiliary.

Dr. William H. Myers, president, appointed an Advisory Committee of six members from your Association; Dr. James N. Brawner, Atlanta, chairman; Dr. Eustace A. Allen, Atlanta; Dr. J. M. Barnett, Albany; Dr. Stewart Brown, Royston; Dr. Ralph H. Chaney, Augusta; and Dr. C. F. Holton, Savannah. This committee has been untiring in its efforts to promote our program, and much of the success of our year's work is due to the efforts of this committee.

The Executive Board met with the President of the Medical Association of Georgia and the Advisory Committee on July 19, 1939. All our plans were submitted at that time and approved.

A booklet of eight pages on "Suggestions for Programs," with a message from Dr. Myers and an explanation of the duties of Chairmen of Committees was prepared for County Auxiliaries, and members by me, and approved at the meeting in July. The Medical Association had three thousand copies printed so every eligible doctor's wife or widow in Georgia could receive a copy. The results have been most gratifying: 2,126 copies were mailed; 14 were requests from other states as far west as Washington and California. Six hundred of "Our Objectives" with letters were mailed to all members of the Auxiliary, to officers of the American Medical Auxiliary and the Southern Medical Auxiliary. They were also published in the State Medical Journal and in the Atlanta Constitution.

Three new committees have been added this year: Archives, Exhibits and the "Mrs. J. Bonar White Exhibit and Scrapbook Awards."

We organized one district, the Fourth, and seven counties: Tift, Elbert, Brooks, Glynn, Spalding, Terrell and Polk reorganized. New counties are: Muscogee, Houston-Peach, Lamar, Macon, and South Georgia. This makes a total of 12 counties and increased our active County Auxiliaries to 38, with 11 members-at-large,

representing 55 counties. At the end of the fiscal year 1938-1939 there were 26 County Auxiliaries with 21 members-at-large, making a total of 549 members. At the close of this year there were 621 members, 11 members-at-large, making a total of 632 members. This is the largest paid membership the Auxiliary has ever enjoyed.

At the meeting with our advisors, Dr. Myers requested that we work in cooperation with the State Board of Health. So, shortly after this meeting, a conference was held in Atlanta, with Miss Fanny B. Shaw, Director of Health Education of the State Department of Public Health, Mrs. Lee Howard of Savannah, chairman for the Auxiliary, and Mrs. H. G. Banister, president-elect. Plans were outlined for the year. About 24,000 copies of health literature on tuberculosis, venereal diseases, heart diseases, cancer, communicable diseases, maternal and child health and malnutrition were distributed, 22 radio health talks were sponsored, and 200 announcement blotters and 50 posters of the American Medical Association radio programs were distributed; 151 programs on self-education on health subjects were held among County Auxiliaries; 187 members held chairmanship of health in other organizations; 39 Health Films have been shown throughout the State, at schools, Parent-Teacher meetings, orphanages, industrial groups, etc.; \$25.00 was contributed during the year to this fund.

Our public relations programs were especially effective under the sponsorship of local medical societies, and 108 programs were prepared and sponsored by Auxiliary members during the year.

Two hundred and ten Hygeia subscriptions were obtained through the untiring efforts of our chairman, Mrs. C. H. Richardson of Milledgeville, whose home county, Baldwin, won first prize of \$35.00 in the National Campaign with 75½ subscriptions in the membership group of from 14 to 23 members. Two other county organizations reached or went over their quota, Bulloch-Evans-Candler and Tift.

Two hundred and nine dollars were added to our Student Loan Fund from County Auxiliaries: \$75.00 was paid on a loan, making a total of \$2,079.51 now available to students wishing to continue in medicine.

We are indebted to the Medical Association of Georgia for generous space allotted us every month in its Journal, for the printing of our "Suggestive Programs," and for the programs for this convention and to our Press and Publicity Chairman, Mrs. J. Harry Rogers, for obtaining for us a monthly column in the Atlanta Constitution, which she edits in addition to our pages in the Journal.

Through their local units Auxiliaries promoted various kinds of philanthropic work. They assisted with the immunization of school children against diphtheria, typhoid, and smallpox; sponsored a children's ward in a charity hospital; maintained a bed in a tuberculosis sanatorium; supplied clothes and toys for needy children; raised \$242.00 for the Empty Stocking Fund; gave inlaid linoleum for a hall floor in a hospital at the cost of \$90.00; maintained a children's playground; helped in the sale of Christmas seals, Red Cross drives and all Auxiliaries took a part in the Control of Cancer drive.

Our chairman of Research in the Romance of Medicine obtained much historical data about physicians and achievements in various sections of Georgia. Programs on Jane Todd Crawford were held in most of our Auxiliaries.

Doctors' Day was commemorated in many ways, such as barbecues, banquets, picnics, dances, radio talks, articles printed in the newspapers, personal notes of appreciation, flowers for doctors' offices and flowers and cards for physicians who were ill. Flowers were placed on the graves of deceased physicians. The State Auxiliary commemorated the day with a radio program over station WSB, Atlanta; Mrs. Forrest M. Barfield, president, Fulton County Auxiliary, read a tribute and poem; and the chairman of your Council, Dr. W. A. Selman, Atlanta, gave a very interesting interview.

History and scrapbooks were kept up to date. The "Brawner Trophy" has promoted greater Auxiliary activities.

This year we have the "Mrs. J. Bonar White Exhibit and Scrapbook Awards," which will be awarded for the best exhibit showing Auxiliary Objectives and work. Scrapbooks are included, but will be judged separately also. These awards and "Mrs. Brawner's Trophy" will be presented on Thursday night at the banquet.

Our archives chairman, Mrs. J. Bonar White, as always, has done outstanding work in collecting and filing the Archives of these sixteen years, with a duplicate of many important papers.

It was my pleasure this year to familiarize myself with the map of Georgia, having covered every section of the State by attending 17 of the 20 district meetings held during the year, and 22 County Auxiliary meetings. I attended the National Auxiliary meeting held in St. Louis in June; served on the Committee on Elections and gave the Georgia report. At the Southern

Medical Auxiliary meeting in Memphis in November, I gave the "In Memoriam" service and report from Georgia. I attended numerous meetings in other organizations and gave talks to various groups.

In addition to mailing 2,784 Suggestive Programs and "Objectives" I wrote 468 personal letters for the Auxiliary.

I sincerely thank Dr. Myers, your President; Dr. Patterson, your President-elect, for their help and cooperation. To Dr. Shanks, your Secretary-Treasurer, I owe a great debt of gratitude for his advice, cooperation and never-tiring patience. His proofreading is unsurpassed, for he has taught me the value of commas, periods and exclamation points.

I am grateful to Mr. Rowe, your Business Manager, for his many kindnesses.

It has been a privilege to have served the Medical Association of Georgia and its Auxiliary.

ROSE N. ALLEN, *President*.
(Mrs. Eustace A. Allen.)

ANNUAL REPORT OF THE PRESIDENT 1939-1940

Madam Chairman, Members of the Auxiliary, and Guests:

Each year the Auxiliary tries to improve its service to the Medical Association of Georgia. This means that all members must understand what is to be done and how to do it and that more women are needed to enlarge this service. Therefore, we took as our slogan for this year, "Serve through knowledge," and prepared an eight-page booklet, mailing it to all eligible wives or widows. You know that it contained the data which explained the Auxiliary program and with the "Objectives" gave an approved outline of work and methods on which to base our service as members and as auxiliaries. Therefore, we are very happy to report that this year has given us the largest membership, 632, and the greatest number of Auxiliaries, 38 Counties and 9 Districts. There were 151 Auxiliary programs for self-education and 108 public relations programs; 187 of our members held offices in lay organizations. Baldwin County won a first place in the National Hygeia contest, 2 counties went over their quotas, and from the reports you have heard you know the results for all committees. Reports do not show the efforts, strains and disappointments, but the President always knows them. I sincerely thank each officer, chairman, district manager, county president and member who has served the Medical Association of Georgia through the Auxiliary this year.

This year began with Post-Convention Executive Board in Atlanta, April, 1939. At that time I secured permission to add two new standing committees: Archives and Exhibits. Mrs. Bonar White graciously offered an award for the best

exhibit and scrapbook. This was accepted with a rising vote of thanks, so a third committee was added. "The Mrs. J. Bonar White Exhibit and Scrapbook Awards."

In May, at the invitation of doctors' wives from Columbus, accompanied by Mrs. W. W. Anderson of Atlanta, I had the pleasure of helping organize the Woman's Auxiliary to the Muscogee County Medical Society. I attended the American Medical Association Auxiliary meeting in St. Louis in June, gave the Georgia report, and served on the Committee on Elections. This meeting was an inspiration in planning for our year.

July 19, 1939, at Savannah, the Executive Board met with Dr. William H. Myers, president, and the Advisory Committee. The Auxiliary "Objectives" for the year were presented and approved. A booklet which included a message from Dr. Myers, the duties of chairmen of committees for State and county auxiliaries, and suggestions for programs was submitted by me and approved at this meeting. The Medical Association of Georgia had 3,000 copies printed and requested that a copy be sent every eligible doctor's wife or widow in Georgia. This was done and the results were most gratifying. Two thousand one hundred and twenty-six were mailed by me, including 14 requests from other states as far west as California and Washington. Stationery was printed and sent to all officers, chairmen and district managers; 600 of "Our Objectives" with letters were mailed to all auxiliary members, to officers of the American Medical Auxiliary and the Southern Medical Auxiliary. They were published in the State Medical Journal and the Atlanta Constitution.

Many of the chairmen came to Atlanta for conferences about their work. This helped us carry on the work to its best advantage. Lists of all district managers and county presidents were sent to all State officers soon after the 1939 Convention.

With my corresponding secretary, Mrs. Olin S. Cofer of Atlanta, I attended the Southern Medical Auxiliary held in Memphis in November, gave the Memorial Service, and the report from Georgia. Articles were written for *The Journal of the Medical Association of Georgia*, the Atlanta Constitution and the Bulletin of the Woman's Auxiliary to the American Medical Association. I assisted the chairman of Press and Publicity in preparing a directory of the membership of the Auxiliary for the September issue of the State Journal.

Assisted by Mrs. J. Harry Rogers, Press and Publicity Chairman, who attended eight district meetings with me this year, one new district was organized, the Fourth.

I have attended 22 Auxiliary meetings, 17 of the 20 district meetings in every section of Georgia,

and made talks to 34 of them. I have traveled about 7,000 miles this year.

In addition to programs and objectives sent out, fifty reports of the American Medical Association Auxiliary were mailed; 176 cards and 468 letters, including 47 letters of bereavement, were written. It was difficult to learn of all deaths; we hope no letter was omitted. Sixty-six packages of stationery and miscellaneous material were mailed, making a total of 3,436 pieces of mail from my home.

During the year I was elected a member of the Board of Directors of the Atlanta and Fulton County chapters of the American Red Cross and made chairman of Nutrition Committee. I gave three talks in the interest of Red Cross Roll Call, served on the Social Hygiene Council and as a member of the Executive Board for the Woman's Field Army for the Control of Cancer. It was my pleasure to talk to Parent-Teacher Association groups and to attend the meetings of about 25 lay organizations. Arkansas and Louisiana invited me to attend their conventions as guest speaker, but to my regret I had to decline.

In preparation for the Convention, 156 questionnaires were mimeographed; these with credential cards were mailed by Mrs. Cofer.

I appreciate Mrs. Rogers' help in preparing the program for our Convention. We owe a debt of thanks to the Medical Association of Georgia and particularly to Dr. Edgar D. Shanks for the printing of them in our colors of blue and gold with the Auxiliary seal on the cover. During my term of office I have enjoyed the fullest cooperation of my advisory committee from the Medical Association of Georgia: Dr. James N. Brawner, Atlanta, chairman; Dr. Eustace A. Allen, Atlanta; Dr. J. M. Barnett, Albany; Dr. Stewart Brown, Royston; Dr. Ralph H. Chaney, Augusta; and Dr. C. F. Holton, Savannah. I am grateful to Miss Fanny B. Shaw of the State Department of Public Health for her assistance to our Auxiliary in helping with health material and films, and for the friendly cooperation of Dr. J. C. Patterson, president-elect.

I thank Dr. William H. Myers, President of the Medical Association, for his help and inspiration to all of us this year. It has been a privilege to serve under his leadership, and for all his kindness and encouragement I express my heartfelt thanks.

I wish I were capable of expressing to you all that I feel for you. I am not but I shall keep dear within my heart your courtesies and many kindnesses. To have served as your President was a great honor. Thank you.

ROSE N. ALLEN, *President*.
(Mrs. Eustace A. Allen.)

The Convention for the Revision of the United States Pharmacopeia was held in Washington, D. C., May 14-15. Dr. C. C. Aven and Dr. Allen H. Bunce, both of Atlanta, represented the Medical Association of Georgia.

GEORGIA DEPARTMENT OF PUBLIC HEALTHT. F. ABERCROMBIE, M.D., *Director***OUR FURTHER NEEDS IN TUBERCULOSIS CONTROL**

Although much remains to be done before the fight against tuberculosis can be won, a note of encouragement is sounded through the fact that there was a large decrease in the number of deaths from tuberculosis and of the rate of death per hundred thousand population. The actual number of deaths was reduced from 1,612 in 1938 to the provisional figure of 1,461 in 1939, and the rate from 52 per 100,000 to 46.8 in 1939. In 1939, 66 per cent of the deaths were Negroes, who comprise 36 per cent of the population. The 1939 reports are not complete, but late additions will not result in a very significant change in those given above.

The 1939 figures show a greater decrease in white than colored deaths, which is as may be expected, because, as is well known, facilities for the hospitalization and medical care of Negroes is not on a par with those for white patients. It is strongly urged that a tuberculosis hospital of at least 200 beds be provided for Negro patients. Advantage of federal assistance for this purpose, if or when it may become available, should be taken. However, in spite of lack of certain facilities, a 41 per cent decrease in deaths in the white race and a 34 per cent in the colored in nine years is a record of achievement of which we may well be proud, and also of the fact that in the past three years the death rate has decreased 26 per cent in the white race and 10 per cent in the colored.

Many things have contributed to the present reduced rate, but for the great reduction of the past three years it is believed that broader education (of physicians as well as laymen), increased development of diagnostic clinics (local as well as state) and establishment of better treatment facilities are chiefly responsible. The State Health Department has offered since July 1, 1937, the operative facilities of the State Tuberculosis Sanatorium to excellent purpose by accepting patients for lung collapse measures only. In order to offer this opportunity to the greatest number of people, each patient admitted is discharged as soon as possible. The result has been that the waiting list for this type of white patients has been reduced so that at times acceptable patients can be admitted immediately and seldom are they required to wait over four or five weeks. A longer wait unfortunately is required for Negroes because available beds cannot meet the demand.

Of incalculable value to tuberculosis control has been the development of pneumothorax treatment facilities throughout the State. During

the period August 1, 1937 to February 12, 1940, 687 patients unable to pay for treatment have been treated in clinics sponsored by local tuberculosis associations and by physicians who are paid nominal fees through local Seal Sale funds. Credit must be given to the Georgia Tuberculosis Association for having made this possible and to the many physicians (about 90) who have generously contributed their service.

The Georgia Tuberculosis Association has sponsored the state-wide pneumothorax refill program not with the expectation of continuing it indefinitely, but to demonstrate its value; having done so it should be relieved of this burden by each community assuming it through its welfare and charitable organizations or by State aid. Immediate serious consideration should be given this matter by all concerned. There are now, February 12, 1940, 406 patients receiving treatment. The cost per patient is about sixty dollars per annum. It costs \$638.75 to keep a patient a year at Alto! The program may be said to save the State \$231,872.50 annually!

Our declining death rate has kept pace with the average for the United States, although we are rated as having a per capita income much below the average for the United States. But for actual control of tuberculosis we must do much more than we have done in the past. As a preliminary to performance we must keep in mind the very broad picture of all the things that perpetuate tuberculosis. Knowing what these complex factors are enables us to consider ways and means to overcome them.

COMMUNITY CONCERTED ACTION REQUIRED

The control of tuberculosis depends on the medical profession, local public health workers, tuberculosis societies, county welfare directors, and other agencies and individuals interested in the solution of the problem. They have done much and their cooperation is greatly appreciated. Final success in wiping out tuberculosis will depend on their continued intelligent co-operation.

Locating the sputum positive cases, which are responsible for the spread of infection, and their immediate isolation are primary essentials for control of tuberculosis. The individual, of course, (and usually his family and friends) is interested primarily in treatment—which is perfectly natural—and it should be provided as indicated as quickly as possible, but the safety of the family and neighbors and the public generally should always be the first thought. Until the public demands such isolation full control of tuberculosis cannot be had. Much more education is required. As the State has provided

neither beds for these communicable cases nor adequate facilities for their treatment, it becomes the duty of each community to provide for them. Over 3,000 new cases, about 2,500 of whom are advanced, are reported each year. About 5,000 cases outside of institutions, most of whom are advanced, represent the present case load of public health agencies and tuberculosis societies. The futility of these being cared for otherwise than by the counties and cities in which they live is apparent. In addition to locating and isolating positive sputum cases the importance of the diagnosis of tuberculosis in early adult stage when prompt treatment will prevent it from becoming communicable is recognized. Every case found early, treated and prevented from becoming communicable, is one less to become a public charge and a menace later on. Reasonable expenditure of public funds for finding early cases is certainly justified.

The responsibility for the promotion and development of case finding in all of its phases and of means to isolate all cases capable of spreading infection (sputum positive cases) and for the provision or securing of treatment is believed to be primarily that of the local public health physician cooperating with all other local agencies, as physicians, tuberculosis societies, welfare departments, school administrators, and all interested organizations and laymen.

A comprehensive appraisal of the tuberculosis situation—the determination of the number of cases and their nature, of the number of contacts and suspects there may be in the community, and of needed added facilities for their examination, isolation and treatment—by the local health officer is believed to be an essential requirement in developing a worthwhile tuberculosis control program.

The responsible public health official may be assisted to his great advantage by the State Department of Public Health through its various divisions and regional medical directors in making appraisals, setting up schedules of services to be rendered, establishing case finding and, possibly, treatment clinics, providing means for isolating patients, etc.

The State Sanatorium, with the lung collapse program which is now so successfully in operation, by rendering many cases sputum free and sputum negative, is a very important factor in tuberculosis control, but it must be borne in mind that it cannot house more than 5 per cent of the known cases at present nor more than 10 per cent after the new addition is placed in operation. It will continue to do all that it possibly may, but in the interest of tuberculosis control as well as the patient, it should be remembered that many physicians and surgeons have particularly qualified themselves to do chest surgery, artificial pneumothorax and to manage cases of tuberculosis. By all means, the local public

health official should utilize such facilities and encourage their development wherever and whenever possible. Often valuable time for the patient which otherwise might be wasted waiting for admission to Alto can be saved.

The Division of Tuberculosis Control of the State Department of Public Health has rendered a large service consisting of case finding clinics, consultation and coordination of various agencies interested in tuberculosis control, and expects to continue such a program. Several hundred cases are located annually through these clinics, but although state field clinics are valuable when properly conducted in finding the early case, no person who is ill and suspected of having tuberculosis should be required to wait for the State clinic to make the diagnosis. Particular effort to clear the diagnosis in all such cases, it is believed, should be made by the family physician and by the local public health official. Usually sputum examinations should be obtained and arrangement for x-ray pictures and other necessary examinations be made promptly not waiting for the state x-ray clinic. As local tuberculosis clinics properly equipped with x-ray and offering a continued service are more valuable than state clinics at long intervals, they should be established by the local public health official wherever practical to do so. The staff of the Division of Tuberculosis Control may assist in the promotion of such clinics and by consultation and x-ray interpretation as desired after they are established.

Conclusion

Control of tuberculosis depends on several factors:

1. Diagnosis of all cases whatever the stage of the disease.
2. Protection of the public generally from the sputum positive case by treatment, isolation, education, and instruction by physicians and public health and social workers in some cases and in other cases only by education, instruction and isolation.
3. Treatment of early adult tuberculosis to prevent it from becoming sputum positive. Arrest can be brought about in 90 per cent of such cases by a few months of strict bed care and education and instruction. The economic value is obvious.
4. Education of the public generally in what the problem is and of what is necessary for its solution by fully informed instructors. Good teaching cannot be had otherwise.
5. Employment of all measures simultaneously. The sanatorium, the hospital, the surgeon, the family physician, the public health and unofficial tuberculosis agencies, social relief and welfare agencies, all of these with their diagnosis, treatment, relief, rehabilitation and teaching are necessary.

6. Realization by the community of the need for its acceptance of responsibility. When State facilities for treating and housing patients are not adequate it is the responsibility of the community, led by the local health official to care for its unfortunate citizens and to protect other citizens from infection. Should adequate sanatorium facilities ever be provided by the State, this local health official and the community over which he has jurisdiction, still would be responsible for providing all necessary effective control measures. Simultaneous effort with energetic action by all local health officials, backed by information and moral support from the State

Department of Public Health, would result in much less spread of infection than we now have.

7. Recognition by each person or agency that tuberculosis, while not hereditary, is a "family epidemic" the continuance of which is favored by substandard living conditions, and that from these families tuberculosis is spread to other members of the community. Every effort should be made through concerted action of the entire community to elevate the standard of living of these "epidemic families," especially as it applies to overcoming under-nutrition and overcrowding.

H. C. SCHENCK, M.D., *Director,*
Division Tuberculosis Control.

MEMBERS REGISTERED AT THE NINETY-FIRST ANNUAL SESSION OF THE MEDICAL ASSOCIATION OF GEORGIA SAVANNAH, APRIL 23-26, 1940

A

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C

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Crawford, W. B., Jr., Savannah
Crawford, W. B., Savannah
Curtis, W. L., College Park

D

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Davis, A. W., Warrenton
Davis, Edwin, Jr., Milledgeville
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deCaradeuc, St. J. R., Savannah
Demmond, E. Carson, Savannah
Davidson, A. A., Augusta
Dickens, C. H., Madison
Dickens, H. B., Jr., Bristol
Dickens, Roger W., Atlanta
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Dis Duke, H. L., Ocilla
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Dykes, A. N., Columbus

E

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Elliott, Jno. L., Savannah

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Emery, W. B., Atlanta
Ensign, Paul R., Sparta
Epting, M. J., Savannah
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Eskridge, Frank, Atlanta
Etheridge, Wm. N., Atlanta
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F

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Fillingim, D. B., Savannah
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G

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Greenblatt, Robert B., Augusta
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Greene, Ed H., Atlanta
Greer, Chas. A., Oglethorpe
Greer, C. B., Brunswick
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Griffin, E. W., Townsend, Tenn.
Griffin, L. H., Claxton
Griggs, H. E., Conyers
Gross, O. S., Vidalia

H

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Hall, Thos. H., Macon
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Hallum, Alton V., Atlanta
Halpern, L. K., Savannah
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Harbin, William, Jr., Rome

Harper, Sage, Ambrose
Harris, E. R., Winder
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Hendry, Katherine M., Blackshear
Hendry, W. A., Blackshear
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I

Iseman, E., Savannah

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Jones, Jack W., Atlanta
Jones, R. E., Tifton
Jordan, W. P., Columbus

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Kennedy, W. D., Metter
Kenyon, Steve P., Dawson
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King, Ruskin, Savannah
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Kracke, Roy R., Emory University

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Lee, Lawrence, Savannah
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Levington, Henry, Savannah
Lewis, S. J., Augusta
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Long, W. V., Savannah
Lord, C. B., Jefferson

Lott, Oscar H., Savannah
Lowance, Mason I., Atlanta
Lundsford, Guy G., Atlanta
Lynn, S. C., Savannah

M

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Malone, Bert H., Waycross
Maner, Edwin, Savannah
Mann, F. R., McRae
Martin, S. W., Hazlehurst
Martin, J. D., Jr., Atlanta
Martin, R. V., Savannah
Martin, W. O., Atlanta
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Mass, Max, Macon
Masse, Joseph C., Atlanta
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Mays, J. R. S., Milledgeville
McArthur, Chas., Cordele
McCall, J. T., Rome
McCarthy, D. J., Savannah
McCay, C. G., Atlanta
McCollum, R. Roy, Kingsland
McCord, Jas. R., Atlanta
McCord, Ralph B., Rome
McDaniel, J. G., Atlanta
McDaniel, J. Z., Augusta
McDonald, Harold, Atlanta
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McElveen, J. M., Brooklet
McElroy, S. L., Ocilla
McGahee, R. C., Augusta
McGee, Chas. M., Savannah
McGee, H. H., Savannah
McGinty, A. Park, Atlanta
McGinty, H. C., Statesboro
McLarty, M. W., Atlanta
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Mercer, J. E., Vidalia
Metts, J. C., Savannah
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Mitchell, Wm. E., Atlanta
Miller, Clifford, Portal
Miller, J. M., Augusta
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Mooney, John, Jr., Statesboro
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Morrison, Howard J., Savannah
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Mulherin, Philip A., Augusta
Mulkey, A. P., Millen
Murphey, Eugene E., Augusta
Muse, L. H., Atlanta
Myers, Wm. H., Savannah

N

Nathan, Daniel E., Savannah
Nevil, J. L., Metter
Neville, R. L., Savannah
New, J. E., Dexter
New, J. S., Dexter
Newman, W. A., Macon
Nippert, Philip H., Atlanta
Norris, Jack C., Atlanta

Norton, Walter, Savannah
Nuckolls, John B., Atlanta

O

Oden, Thomas E., Blackshear
Oliver, Robert Lee, Savannah
Olmstead, G. T., Savannah
O'Neill, J. C., Savannah
Osborne, V. W., Atlanta
Overby, N., Sandersville

P

Parham, L. G., Atlanta
Palmer, J. W., Ailey
Parkerson, S. T., McRae
Patterson, J. C., Cuthbert
Paullin, Jas. E., Atlanta
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Penland, J. E., Waycross
Peterson, T. A., Savannah
Petrie, Lester M., Albany
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Pilcher, J. J., Wrens
Pinholster, J. H., Savannah
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Poer, D. Henry, Atlanta
Porch, Leon D., Macon
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Porter, Ralph E., Savannah
Pruitt, Marion C., Atlanta
Pund, Edgar R., Augusta

Q

Quattlebaum, Julian K., Savannah

R

Rabhan, L. J., Savannah
Randolph, W. T., Winder
Rawlings, F. B., Sandersville
Rayle, A. A., Atlanta
Reavis, W. F., Waycross
Redd, Stephen C., Atlanta
Redfearn, J. A., Albany
Reid, C. W., Pelham
Redmond, C. G., Savannah
Redmond, C. R., Savannah
Rhodes, R. L., Augusta
Richardson, Chas. H., Macon
Richardson, R. W., Macon
Ridley, C. L., Macon
Rieser, Charles, Atlanta
Ritch, Thos. G., Jesup
Righton, H. Y., Savannah
Rogers, A. A., Commerce
Roger, J. Harry, Atlanta
Roberts, C. W., Atlanta
Rogers, J. V., Cairo
Rosen, Samuel F., Savannah
Rosenberg, H. J., Atlanta
Ross, Thos. L., Jr., Macon
Routledge, A. F., Rome
Rozar, A. R., Macon
Rubin, S. N., Gordon
Rudisill, Hillyer, Jr., Atlanta
Rushin, C. E., Atlanta
Rushing, W. E., Millhaven

S

Sams, J. R., Covington
Sage, Dan Y., Atlanta
Saggus, J. G., Harlem
Sanches, S. E., Eastman
Sanford, S. P., Savannah
Sauls, H. C., Atlanta

Saunders, A. F., Valdosta
Schaefer, W. B., Toccoa
Schenck, H. C., Atlanta
Schley, Frank, Columbus
Schillinger, E. N., Atlanta
Schmidt, Henry L., Brunswick
Selman, W. A., Atlanta
Shackleford, B. L., Atlanta
Shanks, Edgar D., Atlanta
Sharp, C. K., Arlington
Sharp, C. M., Alto
Sharpe, H. C., Alston
Sharpley, H. F., Savannah
Sharpley, J. G., Savannah
Shaw, L. W., Savannah
Sherman, J. H., Augusta
Shearouse, William, Savannah
Siegel, Alvin E., Macon
Sinkoc, Samuel J., Atlanta
Simmons, J. O., Woodbine
Simmons, J. W., Brunswick
Slaughter, R. Frank, Augusta
Slocumb, C. B., Doerun
Smaha, T. G., Griffin
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Smith, B. L., Forsyth
Smith, Geo. B., Rome
Smith, J. Gregg, Savannah
Smith, Linton, Atlanta
Smith, Louis, Lakeland
Smith, P. H., Savannah
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Stapleton, J. L., Columbus
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Strickler, C. W., Atlanta
Stovall, J. T., Jefferson
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Swilling, M. E., Macon

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Turk, L. N., Atlanta
Turner, W. W., Nashville
Tyre, J. Lawton, Screven

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Upton, E. T., Savannah

V

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Volpinto, Perry P., Augusta

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Ware, D. B., Fitzgerald
Watt, Chas. H., Thomasville
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Weaver, Olin H., Macon
Weeks, R. B., Augusta
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Wilson, Richard, Atlanta
Wilson, S. Elliott, Savannah
Wilson, W. D., Savannah
Winchester, M. E., Brunswick
Wood, D. Lloyd, Dalton
Wood, Jas. A., Macon
Wood, R. H., Atlanta
Wright, Geo. W., Augusta
Wright, J. J. C., Doerun
Wright, Peter B., Augusta

Y

Yampolsky, Joseph, Atlanta
Youmans, C. R., Hazlehurst
Youmans, H. D., Lyons
Youmans, J. R., Columbus

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Cleveland, Robert H., Jacksonville, Fla.
Corn, Chas. P., Greenville, S. C.
Davis, T. H., Shamrock, Fla.
Fishbein, Morris, Chicago, Ill.
Fort, F. L., Jacksonville, Fla.
Foster, H. Clay, Beaufort, S. C.
Griffin, E. W., Townsend, Tenn.
Holden, G. R., Jacksonville, Fla.
Hall, S. P., Scottsboro, Ala.
Harrell, O. E., Jacksonville, Fla.
Harris, W. G., Jacksonville, Fla.
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Lahey, Frank H., Boston, Mass.
Lynch, Kenneth M., Charleston, S. C.
Manson, P. J., Miami, Fla.
Mason, R. E., St. Stephen, S. C.
Noland, Lloyd, Birmingham, Ala.
Oetjen, Frederick, Jacksonville, Fla.
Pearson, Homer L., Miami, Fla.
Richardson, Geo. W., Jacksonville, Fla.
Royster, Hubert, Raleigh, N. C.
Shaw, W. McL., Jacksonville, Fla.
Stokes, L. M., Walterboro, S. C.
Thomas, J. Warrick, Cleveland, Ohio
Veal, E. W., Jacksonville, Fla.
Vernon, Frank C., Pikeville, Ky.
Wachtel, L. M., Jacksonville, Fla.
Woodyatt, R. T., Chicago, Ill.

NEWS ITEMS

THE FULTON COUNTY MEDICAL SOCIETY met at the Academy of Medicine, Atlanta, May 16. Dr. J. Elliott Scarborough reported a case, "Fungating Epidermoid Carcinoma of Skin of Neck: Treated by Radical Neck Dissection—illustrated with Color Photographs"; Dr. W. W. Blackman made a clinical talk, "How Bad Is Liquor?"; Dr. W. A. Selman introduced new members, Dr. L. Minor Blackford and Dr. Francis P. Parker, paper entitled, "Bundle Branch Block—Reported a Case with Sound Tracings and Histopathologic Studies of the Bundle Branch"; discussion was led by Dr. Wm. R. Crowe and Dr. Evert A. Baneker, Jr.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on May 14. Dr. A. J. Kelley read a paper entitled, "Pyelitis of Pregnancy"; Dr. E. C. Demmond and Dr. John W. Daniel, Jr., led the discussion. Dr. John W. Daniel, Jr., reported a case, "An Unusual Blood Dyscrasia."

DR. A. K. SWIFT and Dr. J. O. Simmons, both of Woodbine, formally opened their new hospital at Woodbine on May 5. It is equipped with operating room, x-ray, laboratory, medical dispensary and emergency room.

THE VISITING staff of Grady Hospital, Atlanta, met on May 14. Dr. Luther P. Baker reported a case of "Low Back Pain"; discussed by Dr. H. W. Jernigan. Dr. M. T. Velkoff reported a case, "Poikiloderma Congenitalis"; discussed by Dr. Joe Boland. Dr. L. P. Baker reported a "Statistical Study of Fractures."

THE STAFF of the Crawford W. Long Memorial Hospital, Atlanta, met on May 9. Dr. J. Harry Rogers reported a case, "Retroperitoneal Tumor with Two Types of Malignancies—Lantern Slides"; discussed by Dr. Francis P. Parker and Dr. Wadley R. Glenn. Dr. Jeff L. Richardson reported a case, "Diverticulum of the Pericardium"; Dr. C. C. Aven and Dr. E. A. Baneker, Jr., led the discussion. Dr. J. D. Manget, Jr., reported a case, "Paroxysmal Tachycardia with Cardio Vascular Failure"; Dr. J. D. Manget and Dr. L. Minor Blackford led the discussion.

The Bibb County Medical Society met in Ridley Hall, Macon, May 21. The scientific program consisted of reports of cases by Dr. J. Allen Smith and Dr. Chas. H. Richardson.

The Southeastern Section of the American Congress of Physical Therapy met at the Biltmore Hotel, Atlanta, May 20-21. Georgia physicians on the program were: Dr. Edgar G. Ballenger, Dr. Harold P. McDonald, Dr. Reese C. Coleman, Jr., Dr. J. W. Landham, Dr. Mason I. Lowance, Dr. Wm. R. Crowe, all of Atlanta; Dr. T. G. Smaha, Griffin; Dr. George Williams, Atlanta; Dr. W. W. Turner, Nashville; Dr. Hal M. Davison and Dr. H. C. Sauls, both of Atlanta.

THE GEORGIA PUBLIC HEALTH ASSOCIATION met at the Ansley Hotel, Atlanta, May 23, 24, 25. Georgia physicians who have served as officers and committeemen during the last fiscal year are: Dr. G. T. Crozier, Valdosta; Dr. S. C. Rutland, LaGrange; Dr. T. F. Sellers, Atlanta;

Dr. J. R. Evans, Decatur; Dr. W. W. Brown, Athens; Dr. A. J. Davis, Swainsboro; and Dr. W. D. Cagle, Gainesville. Physicians on the program were: Dr. J. C. Patterson, Cuthbert, president of the Medical Association of Georgia; Dr. E. S. Armstrong, Cordele; Dr. Leila D. Denmark, Atlanta; Dr. Thomas B. Phinizy, Augusta; Dr. Guy G. Lunsford, Atlanta; Dr. Everett L. Bishop, Atlanta; Dr. Enoch Callaway, LaGrange; Dr. W. B. Buckner, Albany; Dr. Paul R. Ensign, Sparta; Dr. J. D. Stillwell, McRae; Dr. T. F. Abercrombie, Atlanta; Dr. Roy R. Kracke, Emory University; Dr. E. S. Sanderson, Augusta; Dr. J. P. Bowdoin, Atlanta; and Dr. Ralph Mosteller, Atlanta.

MEMBERS of the State Board of Health are: Dr. Claude Griffin, Atlanta, president; Dr. Harold P. McDonald, Atlanta, vice-president; Dr. H. G. Huey, Homerville; Dr. R. F. Wheat, Bainbridge; Dr. Steve P. Kenyon, Dawson; Dr. O. B. Walker, Bowman; Dr. J. W. Palmer, Ailey; Dr. G. T. Lyon, Roswell; Dr. L. G. Neal, Cleveland; and Dr. J. B. Warnell, Cairo.

If interested in a location to practice in a small town, write the Secretary-Treasurer.

DR. J. ALLEN SMITH, Macon, recently completed a post-graduate course under Dr. Chevalier Jackson at Temple University School of Medicine, Philadelphia, Pa., in peroral endoscopy. He announces the opening of a Bronchoscopic Department at the Macon City Hospital.

THE GEORGIA MEDICAL SOCIETY, Savannah, held its regular meeting on May 28. Dr. L. J. Rabham read a paper entitled "Treatment of Varicose Veins—Illustrated with Lantern Slides"; discussion was led by Dr. Oscar H. Lott and Dr. J. G. Sharpley. Dr. W. E. Brown reported a case, "Unusual Complication of Pregnancy."

DR. STEPHEN T. BROWN announces the association of Dr. S. Ross Brown in the practice of urology and urological surgery at Suite 205 Medical Arts Building, Atlanta.

THE SOUTHEASTERN SECTION of the American Congress of Physical Therapy met at the Biltmore Hotel, Atlanta, May 20-21.

THE CHILDREN'S WARD of the Macon Hospital, Macon, has been completed, dedicated and named in honor of Dr. Olin H. Weaver. He was the first superintendent of the Hospital, which was opened in 1895 and has been continuously connected with its management since its opening. Dr. Weaver is now chief of staff of the entire Hospital.

THE COFFEE COUNTY MEDICAL SOCIETY met in the office of Dr. T. H. Clark, Douglas, May 29. Dr. Dan A. Jardine read a paper entitled "The Treatment of Burns." Dinner was served at Stevens' restaurant.

THE WARE COUNTY MEDICAL SOCIETY met at the Phoenix Hotel, Waycross, June 5. Dr. W. F. Reavis spoke on "A Discussion of the Prostate." Dr. B. R. Bussell and Dr. W. C. Hafford were hosts to the members at dinner.

OBITUARY

Dr. Joseph W. Rogers, Macon; Louisville Medical College, Louisville, Ky., 1889; aged 83. Died May 1, 1940, at the home of his daughter, Mrs. Harry E. Pape, Macon. He was born in Nashville, Tenn., spent his childhood in Charlottesville, Ky., and removed to Texas. After he studied pharmacy, he began the study of medicine. Dr. Rogers practiced in Macon for more than thirty years. He took a special interest in helping young men and women to obtain educations, and it was stated that he assisted many. Dr. Rogers was a member of the Episcopal church, F. & A. M., Knights of Pythias and Odd Fellows. Surviving him are his widow, two daughters, Mrs. Harry E. Pape, Macon, and Mrs. Ernest Barker, Fort Monmouth, N. J.; two sons, Dr. Hunter B. Rogers, Miami, Fla., and Orville D. Rogers, Macon.

Dr. Clarence Ernest Pickett, Richland; member; Emory University School of Medicine, Emory University, 1894; aged 70; died April 26, 1940, after an extended illness. He was a native of Richland and spent his entire life there, except during the time he served with the medical corps of the United States Navy. Dr. Pickett was a prominent physician and surgeon and had many warm personal friends. Surviving him are his widow, two daughters, Miss Mary Pickett of Richland, and Mrs. Bayne Wimberly of Dothan, Ala.; three sons, J. M. Pickett, Eufaula, Ala.; C. Gorman and Frank Pickett, both of Richland. He was a member of the Smith lodge F. & A. M., and Richland Baptist church. Rev. M. B. Brown, assisted by Rev. Walton Cook and Rev. Daid Lastinger, officiated at the funeral services conducted at the home. Burial was in Harmony cemetery at Richland.

Dr. Albert W. Lewis, Atlanta; member; University of Tennessee College of Medicine, Memphis, Tenn., 1932; aged 29; died on May 13, 1940, in a private hospital after a long illness. He was a native of Copperhill, Tenn. After he graduated in medicine, he served three years as resident physician of Grady Hospital, Atlanta, and then entered private practice. At the time of his death he was on the faculty of Emory University School of Medicine as assistant professor of pharmacology. Dr. Lewis was a member of the Fulton County Medical Society, Southern Medical Association and American Medical Association. Surviving him are his widow, one daughter, Constance Adams Lewis; his father and mother, Dr. and Mrs. Albert W. Lewis, Copperhill, Tenn.; two sisters, Miss Dorothy Lewis, Jackson, Miss., and Miss Johnnie Sue Lewis, Copperhill, Tenn.; two brothers, Milton Lewis, Isabelle, Tenn., and George Lewis, Ringgold. Funeral services were conducted at the graveside. Interment was in West View cemetery.

Dr. Benjamin F. Shamblin, Lyerly; member; Emory University School of Medicine, Emory University, 1888; aged 81; died May 20, 1940, at his home. He was a native of Cherokee county, Alabama, and began the practice of medicine there. Dr. Shamblin helped to organize the Chattooga County Medical Society and served as its first president. He was widely known and took an active interest in the welfare of his home community,

county and State. While he practiced medicine for more than 50 years, he was an ordained minister of the Church of Christ and officiated at many marriages and conducted numerous funeral services. Surviving him are two daughters: Mrs. Thad McCoy, Douglasville, and Mrs. Thomas W. Hardy, Lyerly. Burial was in Lyerly cemetery.

Dr. George T. Ridgway, Royston; member; University of Georgia School of Medicine, Augusta, 1898; aged 69; died on May 12, 1940, at his home, after an illness of several weeks' duration. He was identified with the social and civic activities in Royston and surrounding community, and was a leading business man for many years. He owned and operated one of Royston's first drug stores. Dr. Ridgway was a most faithful and loyal practitioner to thousands of people in Franklin and adjoining counties. He served them day and night in various kinds of weather. Surviving him are his widow; three sons, George H. Ridgway, Augusta; Hugh D. Ridgway, Norman Park; and Dr. Robert E. Ridgway, Royston. Rev. J. O. Brand and Rev. F. Q. Echols officiated at the funeral services conducted at the Methodist church. Burial was in Rose Hill cemetery.

(Continued from page 329)

Steve P. Kenyon.....	Dawson
O. B. Walker.....	Bowman
J. W. Palmer	Ailey
G. T. Lyon.....	Roswell
L. G. Neal.....	Cleveland
J. B. Warnell.....	Cairo

STATE BOARD OF HEALTH*

First District: Cleveland Thompson, Millen, Sept. 1, 1939.

Second District: J. R. McMichael, Quitman, Sept. 1, 1945.

Third District: Mr. R. C. Ellis, Americus, Sept. 1, 1942.

Fourth District: J. A. Corry, Barnesville, Sept. 1, 1943.

Fifth District: Mr. Robert F. Maddox, Atlanta, Sept. 1, 1942.

Sixth District: C. L. Ridley, Macon, Sept. 1, 1944.

Seventh District: W. P. Harbin, Jr., Rome, Sept. 1, 1944.

Eighth District: Henry W. Clements, Adel, Sept. 1, 1944.

Ninth District: Clarence L. Ayers, Toccoa, Sept. 1, 1945.

Tenth District: D. N. Thompson, Elberton, Sept. 1, 1943.

*Nominated by their respective district medical societies and appointed for six year terms.

STATE OF GEORGIA AT LARGE
Pharmaceutical Association*

M. D. Hodges, Marietta, Sept. 1, 1941.

W. T. Edwards, Augusta, Sept. 1, 1941.

*Nominated by the Georgia Pharmaceutical Association.
Georgia Dental Association*

Pope S. Holliday, D.D.S., Athens, Sept. 1, 1946.

Paul McGee, D.D.S., Waycross, Sept. 1, 1946.

*Nominated by the Georgia Dental Association.

The Chattahoochee Valley Medical Association will meet in Atlanta, Henry Grady Hotel, July 9-11, instead of Radium Springs.

DEDICATION OF OSLER MEMORIAL TO BE HELD AT BLOCKLEY

The old autopsy house where Osler worked at Blockley has been restored as the Osler Memorial Building, and was dedicated on the grounds of the Philadelphia General Hospital, at Curie Avenue, near 34th and Pine Streets, Philadelphia, Pa., at 2 P.M. on June 8, 1940.

Original furnishings, including the necropsy table, have been collected. The painting by Dean Cornwell, N.A., of New York, entitled "Osler at Old Blockley," later to be hung in the building was on exhibition during the celebration.

There are facilities in the building for the housing and preservation of relics of old Blockley, as well as Osleriana. The Committee would welcome any additions to this collection.

A cordial invitation is extended to those who are interested, and especially those who are planning to attend the American Medical Association Convention in New York City June 10th to 14th.

THE SUMMER-TIME USE OF MEAD'S OLEUM PERCOMORPHUM

During the hot weather, when fat tolerance is lowest, many physicians have found it a successful practice to transfer cod liver oil patients to Mead's Oleum Percomorphum.

Due to its negligible oil content and its small dosage, this product does not upset the digestion, so that even the most squeamish patient can "stomach" it without protest.

There are at least two facts that strongly indicate the reasonableness of the above suggestion: (1) In pre-matures, to whom cod liver oil cannot be given in sufficient dosage without serious digestive upset, Mead's Oleum Percomorphum is the antiricketic agent of choice. (2) In Florida, Arizona and New Mexico, where an unusually high percentage of sunshine prevails at all seasons, Mead's Oleum Percomorphum continues increasingly in demand, as physicians realize that sunshine alone does not always prevent or cure rickets.

Mead Johnson & Company, Evansville, Indiana, invite you to send for samples of Mead's Oleum Percomorphum for clinical use during the summer months to replace cod liver oil.

ABBOTT LABORATORIES FELLOWSHIPS IN CHEMISTRY

For the academic year 1940-41, Abbott Laboratories has established fellowships in several universities with important departments of organic chemistry and biochemistry. The fellowships, carrying stipends of \$650 per year, will be available to graduate students in the last or next to last years of graduate work leading to the doctorate degree. The recipients, who are to be selected by the universities in which their work is being done, are not limited as to the subjects on which they will work.

The object of the fellowships is to provide means for the carrying on of additional scientific work in American

universities. The future progress of chemical developments in this country will depend upon the availability of well-trained and qualified men, and it is the intent of Abbott Laboratories in establishing these fellowships to lend encouragement in these general fields.

Grants will be made to the following universities:

In organic chemistry: Cornell, Harvard, Illinois, Michigan.

In biochemistry: California, Columbia, Cornell.

VENEREAL DISEASE PUBLICATIONS

Venereal Disease Information presents a monthly digest of the important papers on diagnosis, treatment, pathology, laboratory research, and public health from the entire world.

This medical journal of venereal disease has been highly recommended by leaders in all fields of public health. In a rapidly developing and changing field of medicine, the physician interested in venereal disease control from the standpoint of differential diagnosis and treatment will find *V. D. I.* an important aid.

Venereal Disease Information is published monthly by the U. S. Public Health Service. Today it ranks as the Government's "best seller," with the highest paid circulation of any Federal publication. It is available at 50 cents per year to all physicians.

New subscribers to *Venereal Disease Information* may receive, on request, any or all of the following supplements:

No. 5—"Diagnosis of Syphilis by the General Practitioner" (1938).

No. 6—"Management of Syphilis in General Practice" (1938).

No. 7—"Syphilis in Mother and Child" (1940).

No. 8—"The Gonococcus and Gonococcal Infections" (1939).

No. 9—"The Serodiagnosis of Syphilis, Part II, Revised Technics" (1939).

No. 10—"Control of the Venereal Diseases in the United States: Present and Future Plans" (1939).

All orders should be directed to the Superintendent of Documents, Government Printing Office, Washington, D. C. Subscription fee, 50 cents per year, in check or money order, *not stamps*.

WANTED

Young physician to assist in general practice and in private hospital. Address: "X" care of THE JOURNAL.

POSITION WANTED

Technician, proficient in Laboratory Work, desires position, temporary or permanent. Write Miss Goldie Chancey, Macon Hospital, Macon, Georgia.

THE JOURNAL

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SYMPOSIUM ON THE PROBLEMS OF MEDICAL CARE IN GEORGIA

GEORGIA'S MEDICAL PROBLEMS OF 1940

C. W. STRICKLER, M.D.
Atlanta

There are several medical problems of great importance which should receive the careful attention of this Association during the year 1940. I deem it of great importance that steps should be taken to see that the people of this State receive competent medical care, certainly in cases of serious illness.

When we take into consideration the fact that there are two counties in the State without a physician, five with only one and fourteen with only two, it is evident that the people of these counties cannot possibly receive that attention necessary for their best interests. Conditions are made even more serious by the fact that approximately 40 per cent of all babies, white and colored, are delivered by midwives. It is not surprising that the mortality rate is so much higher than it should be. The remedy for this phase of the problem will be discussed by two of the other speakers.

Another matter of great importance is to provide proper hospital facilities, mainly for the indigent, both white and colored. Those with means are usually able to secure proper hospital and medical care. I have given this question considerable thought and study. The idea which has been advanced of placing small hospitals in those counties which are without hospital facilities or in districts made up of several counties would, I believe, prove impracticable. The cost of operating such a large number of hospitals would be prohibitive.

Anyone who has had any experience in managing a hospital is well aware of the

Read before the Medical Association of Georgia, Savannah, April 24, 1940.

fact that an improperly equipped, poorly manned institution attempting to function with limited means cannot hope to give adequate service. It is also a debatable question whether major surgery should be attempted by those who have had little experience or who operate only occasionally. It is my impression that major surgery should be done only by those who have had long primary training, which is followed by daily opportunity to develop a proper technique and to acquire knowledge by constant practice and experience. Would it not be a better plan to place two to four hospitals in suitable localities and man them by resident staffs? The hospital to care mainly for the indigent and the lowest income group. If thought advisable, a few private rooms could be added for emergency cases and those too ill to travel long distances. Such a plan would not interfere with those who might have private hospitals close by. This plan would greatly reduce the cost and the hospitals could be better manned and equipped, as indicated above, by experienced clinicians and surgeons and would be able to render that service which one might expect from such an institution.

If possible these hospitals should be placed under the direct supervision of this Association. However, if that be impossible, the argument that many advance that this would be an opening wedge to state medicine is, I think, hardly tenable. I see little difference between such an arrangement and that which many of us are now doing, rendering service in city hospitals over which we have little or no control.

Only 40 per cent of the residents of this State are able to pay for medical service. The remaining 60 per cent compose those moderately well off and the low wage earning class who are able to pay nothing. Be-

tween this low wage earning group and those able to meet their obligations there is a large number who are able to pay at least 50 per cent of the regular fees charged in the localities in which they live. For the present, at least, it would seem to be the duty of the medical profession to take care of this group.

There is another group who, by joining an association, patterned somewhat after the Fulton County Medical Service Bureau, could pay \$12.00 or \$18.00 a year into this association and it would be responsible to the doctor for the medical fees. Each locality would have to work out that plan which would be most suitable and that fee bill which would be found practicable. Those of us who have made long study of the economic problems can assure you that, with this method, the doctors would receive better fees than they could otherwise hope for.

Another matter which I consider of paramount importance is better cooperation among the profession as a whole. In the past the minority have been unwilling to yield to the majority and give their whole-hearted support. If we ever hope to succeed in solving these or any other problems, we must give careful consideration to each problem and when, in the estimation of the majority, the best plan is evolved, those of us who make up the minority should give our whole-hearted support while it is given a fair trial. Divided we are sure to fail, but united we have a fine opportunity to accomplish those things we so much desire.

An effort should be made to rid our State of the charlatan and the unprincipled practitioners. Both prey upon the ignorant and the unsuspecting public and take from the competent physicians of Georgia what is rightfully theirs. This is becoming a serious problem so far as our people are concerned. Many have suffered and are now suffering because they have fallen into unskilled hands. Those in authority have failed in their duty due to ignorance, prejudice or because of what they *think* they know. The physicians of this State should make a united effort to see that suitable laws are passed for the protection of the people of

Georgia against themselves.

Have we carried our education of the people too far? I fear that in some instances we have. A little knowledge is a very dangerous thing. When over the radio and in the lay press diseases are discussed and plans of treatment given, the layman frequently feels that he has acquired sufficient knowledge to manage his own case and, when a physician is called, demands the use of certain drugs or plans of treatment, the physician, in his case, may deem unwise. Should we not confine our teaching to the recommendation of regular examinations, certainly after the age of 40, and to impressing upon them the importance of consulting their physician in case of illness however slight, calling to their attention the danger of using remedies prescribed over the radio and omit from our educational program reference to plans of management and of the drugs to be used. I admit this is a debatable question. However, since the educational program has been in vogue my experience has been that, in many instances, the family and friends have caused much worry and embarrassment to the physician by demanding the use of certain drugs which they heard discussed over the radio or whose wonderful effects have been reported in the lay press. If we fail to yield to their wishes and the patient remains ill or dies, we are held at fault and bitterly blamed.

Finally, we should see to it that our medical structure is so well organized that it will be acceptable to the government and that, from Washington, we may be able to secure the necessary grants to assure good medical service to the citizens of this State. This can be accomplished only by the cooperation of each county medical society and the concurrent effort of each member thereof.

I am convinced that, with the help of the State Board of Health, this Association will be able to solve successfully the problems of medical service in Georgia.

Among the 20,000,000 men of draft age in the United States, 324,000 today are infected with syphilis, Assistant Surgeon General R. A. Vonderlehr of the U. S. Public Health Service reported recently to the Junior Chamber of Commerce in Washington.

PUBLIC HEALTH PROBLEMS AND THEIR RELATION TO MEDICAL CARE IN GEORGIA

T. F. ABERCROMBIE, M.D.

Atlanta

Public Health has been recognized lately as a distinct specialty, as essential as any other specialty that has developed. The time has passed when one individual could be sufficiently versatile to administer to all the needs of the human being who became ill. The successful practitioner of medicine must practice public health daily if his patients are to receive the full benefit of present medical service. In this respect, public health resembles such specialties as pediatrics, a share of which belongs to every general practitioner and a share to those who utilize intricate procedures. The success of public health in Georgia depends upon the practice of preventive medicine by the general practitioner. Despite the fact that public health personnel have a definite task in the field of public health, success can be obtained only by working in unison with the local physicians. That public health is essential to the general practitioner is attested by the faculties of medical schools which have added numerous public health subjects to the curriculum. That public health is a specialty is obvious by the fact that universities are offering specialized training of graduate students. The time should never arrive when public health is entirely dependent upon a special group of public health personnel, because the part to be played by the general practitioner cannot best be handled in any other manner.

Public health and medical care are inseparable. The former determines in large measure the needs for the latter. If a patient who is ill with typhoid fever receives medical care without regard for the spread of the disease adequate service has not been rendered. In those instances when one's illness is a menace to the community, medical care and preventive measures must

march along together if satisfactory results are to be obtained. Physicians are cognizant of the fact that in numerous cases treatment of the patient benefits not only the individual but also those to whom he might transmit the disease. In medical textbooks treatment is divided into preventive and curative measures. Though they are inseparable, they are sufficiently distinct to warrant a separate approach.

The preventive phase of medicine, in many instances, must necessarily include therapeutics. The control of tuberculosis includes isolation, dietary management, surgical intervention, and other therapeutic practices. One method of controlling venereal disease is treating infected patients. A factor in the control of hookworm disease is necessarily treatment of the individual. The therapeutic phase of medicine interests those in public health particularly when the procedure is necessary for effecting control of a disease. Without these advantages many public health problems could not be satisfactorily approached.

The public health approach is based fundamentally upon education. Public health education will directly affect the practitioner because when the people better understand the value of medical care they will cooperate. Physicians are familiar with the fact that their services are minimized by the attitude of patients who refuse to follow directions. The medical profession is dependent upon public health for instruction of people in regard to the essentials of good medical care and the necessity for early treatment. Delay hampers the success of everyone who practices medicine and it can be removed by a reasonable amount of information which the average citizen must possess if he is to act wisely. Good medical care for all the people is impossible at present because people will not accept their responsibility. No amount of money, no large number of specialists can render good medical care in Georgia until the public learns to accept scientific truth.

Recently Atlanta demonstrated a possible disadvantage of group hospitalization which had not been anticipated. During an influenza epidemic when hospitals were

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Director, Georgia Department of Public Health

overflowing because people who had paid their hospitalization fee demanded benefits whether hospital care was necessary or not it was almost impossible to get emergency cases admitted. On the other hand, we find some individuals needing hospitalization who reject this service. There are people with active tuberculosis and others with cancer who refuse free institutional care. The erection of a hospital building will not suffice. The attitude of the people will determine the results of medical care to a great extent.

Many counties are considering the erection of hospitals. In some bonds are being floated to pay for the cost of construction. But the maintenance costs escape consideration of those charged with planning. Most of the hospitals will be built with the hope that pay patients will be sufficient to provide resources with which to care for expenses. This problem affects public health practice because so many of the patients needing hospitalization cannot pay for it. To adequately utilize preventive measures hospitalization of certain patients is necessary. The question of adequate hospital staffs has not been solved. After considering the number of counties in Georgia, their size and their population, it seems only reasonable to conclude that hospitalization can be economically financed by a cooperative plan only. In this plan, each county should endow a certain number of beds to be used for indigent patients which, together with beds for private patients, would assure maintenance cost.

In discussing medical care and its relation to public health, I think we should know what our major public health problems are. I shall deal with those that are reasonably amenable to public health procedures. They are: tuberculosis, malaria, venereal disease, typhoid fever, diphtheria, typhus fever, pneumonia, hookworm disease, infant and maternal mortality, cancer and last, but probably should be first, is nutrition.

With four out of five cases of tuberculosis seen for the first time in the advanced stage, with three reported white and six reported colored cases for each available

hospital bed, with about one-half of these needing relief, and with 1,400 people dying annually from this disease, probably half of the answer to this problem is adequate food and housing. The remainder of the problem is largely case-finding and early diagnosis.

Diphtheria, with 1,097 cases reported last year and producing 89 deaths, is still a problem. With free toxoid and antitoxin available, we have not conquered this disease.

With 580 cases of typhoid fever reported and a consequent 80 deaths and with known methods of control available typhoid fever could be eliminated.

It is estimated there are approximately 300,000 cases of syphilis in Georgia. Each year over 20,000 people begin treatment for the first time. Of the total number of patients treated last year, 88 per cent were colored and 12 per cent white. Approximately 25 per cent of the Negroes and 4 per cent of the white people in Georgia are infected with syphilis.

This State has approximately 6,000 people with cancer, of whom about one-third to one-half are financially unable to secure treatment.

In 1939, there were 3,092 stillbirths, giving a rate of 49.5 babies born dead for each 1,000 born alive. A total of 3,695 infants died, giving a rate of 59.2 for each 1,000 born alive. In addition, 346 mothers died at childbirth, giving a rate of 5.5 dying for each 1,000 babies born alive. Last year 4,202 white babies and 19,180 colored babies born alive were delivered by midwives; 36.2 per cent of all babies born alive were delivered by midwives. There was a total of 1,355 stillbirths attended by midwives, of whom 114 were white and 1,241 were colored.

Typhus fever is becoming a real problem. Last year 1,115 cases were reported. This disease is debilitating and is becoming responsible for a large economic loss. Effective measures can be applied in urban areas.

What is a medical care program? Medical care means medical or surgical treatment, hospitalization and nursing care for

disabled persons. Special cases may involve both public health and medical care. For instance, admission of a patient with smallpox or scarlet fever to an isolation hospital serves the dual purpose of supplying treatment to the individual and protection to the general public.

Good medical care is the type of medicine practiced by the best trained men in the profession in private work, in hospitals, and in medical groups. Now, such care is not available to all the people, perhaps not to the majority. The social economists are of the opinion that one of the main reasons why good medical care is not universally available is its cost. The cost is high for the reason that the study of a patient as well as the treatment by modern methods involves not only the entrance into the field of numerous specialists but also the application of many laboratory investigations—blood, urine, heart, x-ray, basal metabolism, bacteriologic studies, perhaps even animal inoculations.

When the cost of the various tests is added to the family doctor's or the surgeon's fee, to the fee of the various specialists, the nurse's salary, the hospital charges (which include the very expensive x-ray studies), the sum reached may be staggering, far beyond the budget capacity of three-fourths of Georgia's population. Yet in the whole list no one of the medical personnel receives a very large compensation.

It goes without saying that the poor are as much entitled to good medical care as are the rich. Although unable to pay for it, it is as much their right as public school education, police and fire protection. In fact, health is more important than all the others. One cannot say, however, that it is the duty of the medical profession to provide it; rather it is the duty of society to make it possible for the medical profession to provide good medical care for all the people.

Georgia has six counties with a ratio of one physician to 1,000 population or less; 70 with one physician to 1,000-2,000 population; 55 with one physician to 2,000-3,000 population; 26 with one physician to 3,000-10,000 population, and two counties with

no physicians. From this analysis it appears that additional medical service is needed in 83 of the 159 counties of the State, provided one physician is available for each 2,000 people.

In studying the general hospital beds in those hospitals registered by the American Medical Association, we find that only three of our counties have the accepted standard of 4.5 beds for each 1,000 population. This amounts to 222.2 people for each bed. Twenty-five counties have a ratio of one bed to 500 population or less; 20 with one bed to 500-1,000 population; 7 with one bed to 1,000-2,000 population, and one county has one bed to 2,000-3,000 population. One hundred and six counties have no general hospital beds in registered hospitals.

We, at the State Department of Public Health, are thinking in terms of social planning for all phases of public health, medical and social welfare. Individuals suffering from transmissible disease, although adequately treated, are not always completely cared for. For instance, the head of a family goes down with tuberculosis; the diagnosis is made; he is sent to a sanatorium where treatment is applied, and he returns home to conditions that are not conducive to his remaining well. In his absence no provision was available for supplying food, shelter, and clothing for his family. Upon his return he is not in physical condition to take up his regular work. A social planning group could determine the needs of the whole family and devise some method for providing the essentials. Such a council, meeting regularly and composed of numbers representing all of the groups, agencies and activities in the community, could hear reports of conditions needing correction and plan their solution within the resources of the community itself and with resources otherwise available.

Malnutrition, a great many of us believe, is at the bottom of a large majority of our ills. If the whole population were adequately nourished our public health and medical care programs would be simplified immensely. The depletion of the soil has not only given us an increasing group of people unable to pay for medical service,

but they are, in many instances, poorly nourished and more susceptible to disease. Just what an adequate nutritional program is I am not in position to say. Great advances have been made in this field and we are learning rapidly a great many things about nutrition that were hitherto unknown. But a great deal of work needs to be done before nutritional findings can be simplified and applied to the whole population.

The plight we find ourselves in in regard to the medical care problem, or the lack of medical care for so many of our people, should not be charged to the neglect or failure of the physician. It goes much deeper than that. The first American that plowed and planted a piece of ground started soil erosion. The human body contains a certain number of chemical elements which are also found in animals and vegetable matter. Man gets his food from the soil, either directly or from animal flesh which has eaten of vegetable matter directly from the soil. The southeastern states are known to be in a humid area, because of excessive rainfall and heat. This condition oxydizes and dissipates the humus in the soil and with it go the valuable chemical substances. Because of this climatologic situation the southeastern states are very deficient in calcium and phosphorus. In the building of the human body more calcium is required than any other mineral.

The whole situation is not as hopeless as it might seem. There are scientifically trained forces at work on soil erosion, nutrition, medical care, hospitalization, and public health programs. Much more work needs to be done on all phases of these problems. Perhaps what is needed more than anything else is a long range plan that will take into consideration all these phases of human endeavor, interpret and coordinate the knowledge gained in terms of benefit to humanity.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

FACTORS INVOLVED IN THE DISTRIBUTION OF PHYSICIANS WITH SPECIAL REFERENCE TO DISTRIBUTION IN GEORGIA

ALFRED A. WEINSTEIN, M.D.

C. W. ROBERTS, M.D.

Atlanta

In the complex of economic scientific and psychologic factors which bear upon the distribution of physicians between town and country, one fact of overshadowing importance stands clearly disclosed. Always, and everywhere, the people of urban communities have among them a substantially greater number of physicians than has an equal rural population. Manifestly this cardinal feature of the distribution of physicians bears no relationship to the need for medical service, for, on the basis of need, a given rural population thinly scattered over an area, serviced by poor roads, would require a substantially greater number of physicians than an equal population in a compact urban settlement. What determines the distribution of physicians between city, town and country is not the relative need for medical service, but the superior attractions offered by urban over rural loci as a possible field for the practice of medicine.¹

There is no doubt that from the standpoint of professional satisfaction, personal comfort, and social environment, the city and the town have always offered to the trained physician greater opportunities than the isolated village. Given equal income and prestige, there would be but few physicians who would not choose practice in a fair-sized town in preference to a remote rural location. It is the difficulty of obtaining a foothold in the towns and cities that has sent the graduate to the lone village, and has kept there the established physician who might otherwise be leaving. So long as there exists a degree of free competition in the medical profession, the superior

The authors gratefully acknowledge the technical assistance of Miss B. Rich and Mrs. Edith Elsas.

Read before the Medical Association of Georgia, Savannah, April 24, 1940.

From Emory University School of Medicine.

personal, professional and social attractions of the town will unfailingly produce there a saturation, or, in the larger cities, a supersaturation; while the rural areas will attract physicians only to the extent that they offer a sufficiently superior financial prospect to outweigh the attractions of the town.

The professional income of the average village practitioner remains a very modest one, with a low scale of fees and a still lower scale of collection. Here, too, resides a population which regards medical attention as an item of expenditure to be indulged only under urgent compulsion. The run of rural practitioners earn only a modest livelihood. Many of them find it necessary to add to their professional income by engaging, more or less, in farming or trade. With a marked decrease in trade and in agriculture during the past ten years, many of these practitioners have found it impossible to earn a livelihood in rural areas. They have, therefore, moved into towns. Moreover, with the coming of better roads and the automobile, rural physicians were brought into more severe competition than formerly. Territories regarded as the exclusive preserve of the physician in a given village were subjected to incursions from one, or perhaps, many surrounding villages. The inevitable result of the greatly intensified competition between rural physicians produced by the automobile was that an increasing number of them found their locations either no longer tenable or so reduced in security that they were constrained to seek new fields. According to Mayers and Harrison, as a poorer location became vacant the surrounding physicians began to service the territory, making it untenable for a newcomer.

The growth of towns as trading centers at the expense of the surrounding villages has been an outstanding development in rural life during the past two decades. The effect of these developments has been most pronounced in the case of villages lying within easy distance, perhaps ten miles of the trading center. At the same time that the difference between town and village doctor in accessibility to the farm dweller was

being rapidly reduced, the difference in office equipment and facilities was being widened with equal or even greater rapidity. To the superior equipment of the town physician has been added, in varying degree, another potent force in drawing patients from the outlying village practitioner, the town hospital. Mayers and Harrison further observed that "Concurrently with the development of hospitals in the small towns has come an increase in the number of specialists. Against the lure of the supposedly, and in many cases really, superior service to be obtained from the town specialist, even the most skilful and well-esteemed village practitioner wages an unequal battle."

It is important to appreciate that this type of competition has affected precisely the most lucrative part of the practice of the village physician. Naturally, it was the most affluent of his patients who owned automobiles, who became habitual visitors and patrons of the town physician, and even among the less prosperous, certain types of work, and the surgical cases particularly, went to the town physician and hospital. For the village practitioner there remained the long hard drives over the rough country roads, the night calls, and wearisome obstetric cases in remote farm houses, and the charity cases.

Seriously aggravating the situation for the village practitioners in many localities is the fact that this intensification of town competition has taken place in the face of a relative and sometimes even an absolute decline in the number of his clientele. In many cases, these declines reflect progress in the increased utilization of farm machinery. In other areas there has been a decline in agriculture, with deterioration in the economic level of the farm population. There has also been an increase in absentee ownership with the removal to town of prospective farm owners, and a substantial increase in the proportion of tenant farmers.

From another quarter has come an additional financial loss to the country physician. Within the present century, two diseases which formerly furnished a large

and dependable income for the village practitioner, typhoid and malaria, have been brought in many areas so far under control as to be financially of negligible importance to the village practitioner. The extension of the ice supply and refrigerators have greatly reduced the incidence of food poisoning and related disorders.

The inevitable concomitant of the declining financial attractiveness of rural practice has been an unremitting nationwide migration of rural physicians to the towns, and an increasing disinclination of the younger graduates to take up rural locations.

Method of Study

The present study was begun with the intention of making available information concerning the distribution of physicians in Georgia which may be of interest to members of the profession, to young graduates seeking locations, and to communities

which may be in need of medical service. Using the U. S. Bureau of Statistics for 1930,² the population was divided by counties into white and colored. Studies were then made on the total population per county serviced by one physician, the number of whites per county serviced by one physician, and the square miles covered by one physician per county. These statistics were correlated with the net taxable values per county.³

There were 2,285 physicians engaged in active general practice in Georgia in 1938.⁴ In the rural areas there is one physician per 1,800 population; in the urban areas 1:1,100; and for the State as a whole 1:1,560. There are 369 physicians who limit their practice to specialties. Fifty-six per cent of all the general practitioners were concentrated in 19 counties which had a population of one-third of the total population of Georgia.

Table 1

County	No. of Phys. 1938	Total Pop. 1930	White Pop.	Area in Sq. Mi.	Net taxable values 1938	Total Pop. served by 1 Phys.	White Pop. served by 1 Phys.	Sq. Mi. served by 1 Phys.
Appling.....	6	13,314	10,483	454	1,537,070	2,219	1,747	76
Atkinson.....	4	6,894	4,926	330	495,768	1,724	1,232	83
Bacon.....	2	7,055	5,957	271	899,391	3,528	2,979	136
Baker.....	2	7,818	3,033	357	974,888	3,909	1,511	179
Baldwin.....	27	22,878	12,083	307	2,671,958	874	447	11
Banks.....	4	9,703	8,733	222	748,545	2,426	2,184	56
Barrow.....	9	12,401	10,328	168	1,433,220	1,377	1,147	18
Bartow.....	14	25,364	20,670	471	4,630,434	1,811	1,480	33
Ben Hill.....	11	13,047	8,534	256	2,022,332	1,186	776	23
Berrien.....	7	14,646	12,282	500	1,627,040	2,092	1,754	71
Bibb.....	86	77,042	43,611	277	31,488,365	895	506	2
Bleckley.....	5	9,133	5,872	205	1,314,019	1,825	1,174	41
Brantley.....	2	6,895	5,652	434	593,294	3,448	2,826	217
Brooks.....	11	21,330	10,052	514	3,136,684	1,939	914	47
Bryan.....	4	5,952	3,276	431	995,377	1,688	819	108
Bulloch.....	16	26,509	16,409	668	3,086,366	1,656	1,026	42
Burke.....	11	29,224	6,481	956	3,990,624	2,657	588	87
Butts.....	6	9,345	4,851	203	1,098,031	1,557	808	34
Calhoun.....	8	10,576	3,134	284	1,455,115	1,322	391	35
Camden.....	4	6,338	2,577	711	1,123,737	1,585	644	178
Candler.....	6	8,991	5,841	228	1,077,032	1,498	974	38
Carroll.....	22	34,272	26,635	492	3,850,555	1,558	1,211	23
Catoosa.....	3	9,421	8,940	169	874,015	3,140	2,980	56
Charlton.....	2	4,381	3,331	881	983,352	2,191	1,666	440
Chatham.....	111	105,431	52,943	370	46,994,809	950	477	3
Chattahoochee.....	0	8,894	6,084	218	250,630	*	*	*
Chattooga.....	12	15,407	13,417	328	3,119,935	1,283	1,118	27
Cherokee.....	9	20,003	19,024	429	3,988,985	2,222	2,113	47
Clarke.....	25	25,613	15,540	114	11,155,195	1,024	621	4
Clay.....	5	6,943	2,408	203	649,743	1,388	481	40
Clayton.....	3	10,260	6,987	142	1,042,050	3,420	2,329	47

County	No. of Phys. 1938	Total Pop. 1930	White Pop.	Area in Sq. Mi.	Net taxable values 1938	Total Pop. served by 1 Phys.	White Pop. served by 1 Phys.	Sq. Mi. served by 1 Phys.
Clinch.....	4	7,015	3,961	900	930,911	1,754	990	225
Cobb.....	22	35,408	28,787	353	6,227,625	1,609	1,308	16
Coffee.....	12	19,739	14,457	632	2,648,963	1,645	1,205	54
Colquitt.....	21	30,622	22,846	529	5,406,706	1,315	1,087	25
Columbia.....	4	8,793	3,250	350	1,001,309	2,198	813	88
Cook.....	5	11,311	8,228	241	1,267,935	2,262	1,646	50
Coweta.....	20	25,127	14,267	443	5,683,692	1,256	713	22
Crawford.....	2	7,020	3,137	319	751,987	3,510	1,568	159
Crisp.....	14	17,343	8,923	277	3,182,061	1,238	637	19
Dade.....	3	4,146	3,934	186	590,756	1,382	1,311	62
Dawson.....	1	3,502	3,460	216	283,497	3,502	3,460	216
Decatur.....	12	23,622	11,768	823	3,227,305	1,951	980	68
DeKalb.....	26	70,278	57,465	272	21,588,900	2,703	2,133	10
Dodge.....	16	21,599	13,576	431	2,819,866	1,349	848	26
Dooley.....	8	18,025	7,946	397	2,490,080	2,256	993	49
Dougherty.....	17	22,306	9,309	342	9,078,130	1,312	547	20
Douglas.....	6	9,461	7,179	208	823,388	1,576	1,196	34
Early.....	9	18,273	8,525	524	2,377,315	2,030	947	58
Echols.....	1	2,744	1,897	362	354,795	2,744	1,899	362
Effingham.....	3	10,164	6,000	448	1,298,652	3,388	2,000	149
Elbert.....	15	18,485	10,862	361	2,847,608	1,232	724	24
Emanuel.....	9	24,101	14,969	889	2,794,705	2,676	1,663	98
Evans.....	5	7,102	4,483	287	511,410	1,420	896	57
Fannin.....	5	12,969	12,885	401	778,149	2,593	2,577	100
Fayette.....	3	8,665	5,821	234	702,292	2,888	1,940	78
Floyd.....	34	48,667	39,864	502	13,902,316	1,431	1,167	18
Forsyth.....	5	10,624	10,605	247	698,027	2,124	2,121	49
Franklin.....	12	15,902	13,222	279	1,413,168	1,325	1,101	70
Fulton.....	653	335,220	225,093	541	229,775,695	512	345	0.9
Gilmer.....	5	7,344	7,330	440	640,189	1,468	1,466	88
Glascock.....	2	4,388	3,064	170	372,576	2,184	1,532	85
Glynn.....	14	19,400	10,692	439	8,644,865	1,314	763	31
Gordon.....	13	16,846	15,725	375	1,905,007	1,299	1,209	28
Grady.....	8	19,200	12,563	444	1,725,705	2,400	1,570	56
Greene.....	8	12,616	5,979	416	1,974,075	1,577	747	52
Gwinnett.....	15	27,853	24,494	440	2,950,045	1,856	1,632	29
Habersham.....	12	12,748	12,013	290	1,757,803	1,062	1,001	24
Hall.....	22	30,313	26,897	437	7,616,902	1,286	1,222	19
Hancock.....	6	13,070	3,709	530	1,278,708	2,178	618	88
Haralson.....	10	13,263	11,914	284	1,417,630	1,326	1,191	28
Harris.....	5	11,140	3,446	501	987,765	2,228	689	100
Hart.....	8	15,174	11,261	261	1,278,267	1,897	1,408	33
Heard.....	5	9,102	6,733	285	575,384	1,880	1,347	57
Henry.....	8	15,924	8,003	324	2,040,173	1,991	1,000	41
Houston.....	5	11,280	3,643	585	2,060,514	2,256	729	117
Irwin.....	8	12,199	7,650	378	1,328,696	1,523	956	47
Jackson.....	14	21,609	17,537	355	2,157,285	1,543	1,252	25
Jasper.....	6	8,594	3,352	321	1,001,116	1,599	585	53
Jeff Davis.....	4	8,118	6,434	300	1,009,186	2,030	1,609	75
Jefferson.....	8	20,727	8,676	646	1,950,466	2,591	1,085	81
Jenkins.....	8	12,908	5,424	342	1,002,687	1,613	678	42
Johnson.....	7	12,681	7,716	292	1,200,915	1,812	1,102	42
Jones.....	2	8,992	3,214	377	763,061	4,496	1,607	189
Lamar.....	5	9,745	5,261	184	1,380,308	1,949	1,052	37
Lanier.....	3	5,190	3,242	191	458,415	1,730	1,081	63
Laurens.....	21	32,693	19,131	806	5,738,295	1,557	911	38
Lee.....	2	8,328	1,834	326	1,604,317	4,164	917	163
Liberty.....	2	8,153	2,613	936	775,570	4,077	1,307	468
Lincoln.....	4	7,847	3,752	291	713,443	1,968	938	73

County	No. of Phys. 1938	Total Pop. 1930	White Pop.	Area in Sq. Mi.	Net taxable values 1938	Total Pop. served by 1 Phys.	White Pop. served by 1 Phys.	Sq. Mi. served by 1 Phys.
Long.....	1	4,180	2,389	393	538,197	4,180	2,389	393
Lowndes.....	27	29,994	16,060	476	6,685,835	1,110	594	17
Lumpkin.....	3	4,927	4,735	280	698,824	1,643	1,578	93
McDuffie.....	4	9,014	4,436	287	1,378,524	2,253	1,109	71
McIntosh.....	4	5,763	1,840	470	1,003,415	1,440	436	117
Macon.....	9	16,643	5,444	369	2,180,131	1,849	604	41
Madison.....	6	14,921	12,075	284	1,100,918	2,486	2,012	47
Marion.....	4	6,963	3,052	360	796,790	1,742	763	90
Meriwether.....	13	22,437	10,651	496	2,579,730	1,725	819	38
Miller.....	3	9,076	5,992	253	1,143,585	3,025	1,997	84
Mitchell.....	13	23,620	11,738	548	2,918,296	1,816	902	42
Monroe.....	8	11,606	4,844	584	1,712,180	1,450	605	73
Montgomery.....	4	10,020	5,544	190	822,427	2,405	1,386	47
Morgan.....	9	12,488	5,285	390	2,149,965	1,337	587	43
Murray.....	7	9,215	8,880	342	951,646	1,316	1,268	49
Muscogee.....	55	57,553	36,562	235	31,828,010	1,046	664	4
Newton.....	6	17,290	10,496	262	3,737,050	2,881	1,749	43
Oconee.....	3	8,032	5,630	172	793,550	2,694	1,893	57
Oglethorpe.....	8	12,927	6,487	504	1,635,750	1,615	810	63
Paulding.....	3	12,327	11,198	324	996,263	4,109	3,732	103
Peach.....	10	10,268	3,670	179	2,066,556	1,027	367	18
Pickens.....	4	9,687	8,880	231	1,452,112	2,421	2,220	57
Pierce.....	6	12,522	9,263	517	1,374,062	2,087	1,544	86
Pike.....	5	10,853	5,450	307	1,018,768	2,171	1,090	61
Polk.....	17	25,141	20,356	317	5,725,576	1,479	1,197	19
Pulaski.....	5	9,005	3,933	258	1,861,600	1,801	787	52
Putnam.....	3	8,367	3,152	361	1,135,219	2,789	1,051	120
Quitman.....	1	3,820	1,178	144	388,714	3,820	1,178	144
Rabun.....	4	6,331	6,159	377	847,247	1,583	1,540	94
Randolph.....	11	17,174	5,603	412	2,005,374	1,561	509	37
Richmond.....	94	72,990	41,838	319	35,766,225	778	445	4
Rockdale.....	4	7,247	4,804	119	1,153,616	1,812	1,201	30
Schley.....	4	5,347	2,027	154	680,630	1,337	507	39
Screven.....	10	20,503	8,851	794	1,792,244	2,050	885	79
Seminole.....	6	7,389	4,488	240	1,054,070	1,232	748	40
Spalding.....	17	23,495	15,287	209	6,266,750	1,382	899	12
Stephens.....	7	11,740	9,647	166	1,171,755	1,677	1,378	24
Stewart.....	8	11,114	3,183	411	1,524,900	1,339	398	51
Sumter.....	16	26,800	9,351	456	4,622,150	1,675	584	137
Talbot.....	4	8,458	2,628	312	851,893	2,114	657	78
Taliaferro.....	0	6,172	1,943	212	662,089	6,172	1,943	71
Tattnall.....	12	15,411	12,054	466	1,431,312	1,234	1,005	39
Taylor.....	4	10,617	5,367	340	927,670	2,654	1,342	85
Telfair.....	12	14,997	10,112	373	1,918,940	1,250	843	31
Terrell.....	11	18,290	5,295	322	2,392,672	1,663	481	30
Thomas.....	31	32,612	16,616	530	7,029,091	1,052	536	17
Tift.....	13	16,068	11,170	243	2,756,977	1,236	859	18
Toombs.....	12	17,165	12,257	393	2,202,968	1,430	1,021	33
Towns.....	3	4,346	4,346	181	248,617	1,449	1,449	60
Treutlen.....	2	7,488	5,012	137	836,336	2,744	2,506	68
Troup.....	33	36,752	21,589	435	7,797,156	1,113	654	13
Turner.....	8	11,196	7,315	231	1,433,736	1,399	914	28
Twiggs.....	5	8,372	3,031	314	812,118	1,674	606	63
Union.....	4	6,340	6,291	324	294,115	1,585	1,573	81
Upson.....	9	19,509	12,544	317	6,026,641	2,167	1,393	35
Walker.....	20	26,206	23,797	432	3,940,335	1,301	1,190	22
Walton.....	10	21,118	14,338	331	2,790,340	2,112	1,434	33
Ware.....	24	26,558	18,255	771	4,986,889	1,106	760	32
Warren.....	4	11,181	3,827	404	1,188,487	2,695	957	101

County	No. of Phys. 1938	Total Pop. 1930	White Pop.	Area in Sq. Mi.	Net taxable values 1938	Total Pop. served by 1 Phys.	White Pop. served by 1 Phys.	Sq. Mi. served by 1 Phys.
Washington.....	17	25,030	10,881	669	2,874,567	1,472	640	39
Wayne.....	6	12,647	9,590	788	1,604,588	2,103	1,598	131
Webster.....	1	5,032	1,992	302	494,090	5,032	1,992	302
Wheeler.....	4	9,149	6,207	264	1,070,803	2,287	1,551	66
White.....	2	6,056	5,665	245	383,499	3,028	2,833	123
Whitfield.....	18	20,808	19,403	283	5,051,218	1,156	1,077	15
Wilcox.....	8	13,439	7,957	403	1,559,225	1,680	995	50
Wilkes.....	8	15,944	5,842	458	1,980,235	1,994	730	57
Wilkinson.....	7	10,844	5,725	472	1,237,482	1,549	812	67
Worth.....	11	21,094	11,503	651	2,795,376	1,917	1,046	59

*No Physician.

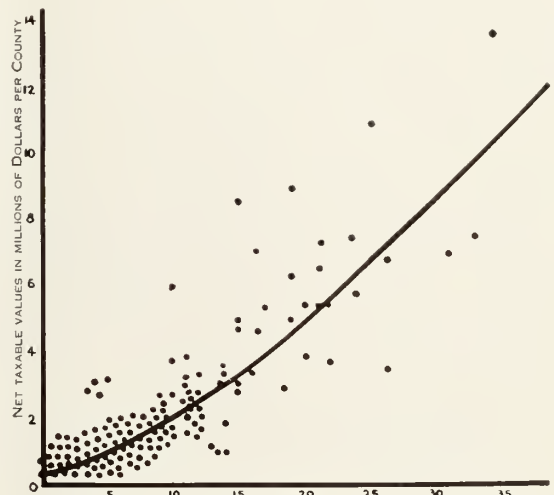
Total Pop.—3,085,000 (1937 Census) all other figures from 1930 U. S. Census.

Total Area—59,265 sq. mi. (Land, 58,725) County Areas
(Water, 540) All Land.

It will be noted by review of table I that two counties, with a total population of 13,926, had no physicians. Five counties had one physician each; a ratio of 1:3,855. Eleven counties, with a total population of 62,868, had two physicians each; a ratio of 1:3,205. Twelve counties, with a total population of 93,923, had three physicians each; a ratio of 1:2,650.

It was found that only 12 counties (7 per cent) had one physician per 1,100 or less, 147 counties (93 per cent) had one physician for more than 1,100 population. When the data were analyzed in terms of physicians and white population, it was found that only 78 counties (49 per cent), had one physician per 1,100 white population or less, 81 counties (51 per cent), had one physician for more than 1,100 white population. The ratio of Negro physicians to the Negro population was 1:5,500.

Although the per capita sales per county is a better index of the spendable income of a county, these figures were not available. And so the net taxable values were used to correlate with the number of physicians per county. It was found, and more or less expected, that there was a proportionality between the county taxable values and number of physicians in the county. The two extremes were as follows: Chattahoochee County with net taxable values of \$250,630 had no physicians; Fulton County with net taxable values of \$229,775,695 had 653 physicians.



Graph I. Number of physicians per county.
The relation of the number of physicians to the net taxable values per county.

In Graph I, the net taxable values per county was plotted against the number of physicians per county. It appears that the number of physicians in a county begins to rise sharply only after the net taxable values in the county increase over \$2,000,000. This is in accord with other studies in which the per capita sales per state have been compared with the number of physicians in the states. In Table II,¹⁵ it is evident

TABLE II

Relationship of number of physicians to per capita sales:
Per capita 1929

<i>Physicians per 100,000</i>		<i>Retail Sales</i>
Pacific States	160	549
Middle Atlantic	141	500
South Atlantic	106	263
East South Central.....	97	220
Average	125	407

that the number of physicians in a state is proportional to the per capita sales in the state.

Comment

According to the Bureau of Medical Economics of the A. M. A.,⁶ to supply adequate medical service in the U. S. the ratio of physicians to population should be 1:1,100. In older countries of Europe,⁷ we find in 1930 in Great Britain and France the ratio was 1:500, in Germany 1:200, in Norway 1:600, in Sweden 1:2600. In the United States in 1930 the ratio was 1:785.

How does the distribution of physicians in Georgia compare with the South as a whole, and with other Southern States? In the South* (the areas south of the Potomac and Ohio Rivers, also including Arkansas, Oklahoma and Texas) there live 39,000,000 people. In 1936 the ratio of physicians to population was 1:1,106. In Louisiana,⁹ while the medical population is collectively fully adequate in numbers, the unequal distribution of physicians causes deficiencies of service in 25 per cent of the parishes, adequate service in 42 per cent, excess in 33 per cent. In Tennessee,⁸ the ratio was 1:1,004, with 1:500 in four large cities, the remainder of the state 1:1,517. In Tennessee, between 1925-1931, Hyman found a decrease of almost 30 per cent in the number of physicians practicing in villages, a decrease of 2 per cent in the towns, and an increase of 10 per cent in the cities. In Alabama¹⁰ the ratio was 1:1,345. In spite of an increase of 500,000 in population in the last twenty-five years, there are 425 fewer physicians engaged in practice in Alabama.

While little has been written on the subject, the evil consequences of scarcity of physicians in rural areas can become alarming. In 1925, under such conditions, legislatures in Tennessee, Arkansas, and Kentucky gave serious consideration to laws designed to produce more physicians in rural areas, but actually striking a serious blow at standards of medical practice in those states. Nearly every session of the legislature in Tennessee since that time has put special action to license someone to practice in rural areas under conditions

not met with regional legislative requirements. There are some now in practice without license. These men are protected from legal action by local sentiment. People will have some sort of medical service. Shall it be from inferior licentiates or standard graduates employed with public funds?

An even greater danger involved in the faulty distribution of medical care is the danger of the imposition of some form of compulsory socialized medicine by the Federal Government. That this is imminent is evidenced by careful perusal of the report by the Committee on the Cost of Medical Care in which deficiencies were revealed which might open the way to the regimentation of medicine. It is not unlikely that unless the medical profession takes the initiative for working out an adequate program for the distribution of medical care, the lay public will eventually take a hand and work out a program to their own liking. Due cognizance of this expected attack upon organized medicine was taken in the special session of the House of Delegates of the American Medical Association in September, 1938.¹⁴ Among the recommendations growing out of this meeting was the following: "Your Reference Committee of the House feels that in each state a system should be developed to meet the recommendations of the National Health Conference, in conformity with its suggestion that, "The role of the Federal Government should be principally that of giving financial and technical aid to the states in their development of sound programs through procedure largely of their own choice."

Due cognizance of the steady decrease in rural physicians and overcrowding in the city was taken by the University of Tennessee during the past ten years. In 1923 that state was experiencing a loss of 50 physicians per year, with a steady shift of physicians from village to town to city. In 1925 the Tennessee legislature gave support to the University to finance a program to check the annual loss and make for better distribution of physicians. From 1925 to 1930 a campaign of publicity in each

rural county served to call attention to the immediate and prospective need of the county for more physicians. It was the feeling of Dean O. H. Hyman that applicants to the medical school from areas from which there was a paucity of physicians should be given preference. The ratio of students from rural counties responded at once, and the ratio of graduates going back to rural counties increased. Up to 1937, 60 per cent of the 1933 graduates had gone back to rural counties to practice.

The status in Georgia is strikingly like that in Tennessee.¹¹ In Georgia there is not only a total decrease in number of physicians per year, but also a faulty distribution of physicians. Of the states showing the greatest decrease of physicians from 1931 to 1936, Missouri ranks first, having lost 212 physicians, and Georgia second, having lost 144.

To quote again from the House of Delegates' report, "Your committee recognizes that health needs and means to supply such needs vary throughout the United States. Your committee, therefore, encourages county or district medical societies to develop appropriate means to meet their local requirements." On the basis of the evidence submitted in this paper, one of the requirements which must be met in Georgia is redistribution of physicians to the end that rural areas in Georgia will be more adequately supplied with physicians to more adequately meet the demands of those regions for medical service. That there is a demand for physicians in rural communities is evident from personal communications¹² from Mr. Rowe, Executive Secretary of the Medical Association of Georgia, who states that he receives at least two communications a month from rural districts of Georgia asking for physicians. Such communications should be studied carefully, and means provided to transmit information concerning likely sites to recent graduates of our medical schools.

Whether or not an attempt should be made by the medical schools in Georgia to increase the number of students coming from rural areas is a problem open to serious thought and consideration. It may well

be that this method of redistribution of physicians, according to the studies of Dr. Hyman, would also be successful in Georgia.

With the increase in tendency toward the mechanization of agriculture, it is rather likely that the same shift in population from village to town will continue to take place. In that event, it becomes increasingly evident that sparsely settled regions will be unable to support a physician solely on the basis of private practice. It may become necessary for the village or town to subsidize, in whole or in part, private practitioners. In 1938, the Medical Association of Georgia, through the General Assembly of Georgia, offered the following constitutional amendment which was passed by the citizenry, permitting the counties "To provide medical or other care and hospitalization for the indigent sick people of the county,"¹³ by taxation. It may well be that certain counties may see fit to partially subsidize a practitioner to care for the medically indigent, and simultaneously permit him to carry on private practice among those who can afford to pay.

It is conceivable that the following suggestion of the House of Delegates¹⁴ may be applicable in offering physicians in sparsely settled rural areas a more stable income, "In addition to insurance for hospitalization, your committee believes it is practical to develop a cash indemnity insurance plan to cover, in whole or in part, the cost of emergency or prolonged illness. Agencies set up to provide such insurance should comply with state statutes and regulations to insure their soundness and responsibility, and have the approval of county and state medical societies under which they operate. Your committee repeats its convictions that volunteer indemnity insurance may assist many income groups to finance their sickness costs without subsidy."

In the last analysis, physicians in no small number are willing to locate in any community that really has a need for their services, and can provide them with a decent living. Anything that will increase the income of the rural areas of Georgia will go a long way in solving the problem of a

more adequate distribution of physicians and hospitals.

Summary

1. The factors involved in the distribution of physicians are analyzed. The economic, personal, professional and social attractions of the town produce a saturation therein, and in larger cities a supersaturation. Rural areas attract physicians only to the extent that they offer a sufficiently superior financial return to outweigh the attractions of the town.

2. There were 2,285 physicians engaged in general practice in Georgia in 1938. In the rural areas there is one physician per 1,800 population, in the urban areas 1:1,100; and for the State as a whole 1:1,560. In the United States the ratio was 1:785.

3. The number of physicians in Georgia is decreasing. Of the states showing the greatest decrease from 1931-1936, Georgia ranks second, having lost 144.

4. The distribution of physicians in Georgia is faulty. Fifty-six per cent of all the general practitioners were concentrated in 19 counties which had a population of one-third of the total population of Georgia.

5. The number of physicians per county is proportional to the net taxable values per county.

6. The evil consequences of scarcity of physicians in rural areas are discussed.

7. The means taken by other states and the means suggested by the House of Delegates of the American Medical Association to tackle the problem of more adequate distribution of physicians is discussed.

BIBLIOGRAPHY

1. Mayers, L. and Harrison, L. V.: The Distribution of Physicians in the United States, General Education Board, 1924.
2. United States Census for 1930.
3. Raisty, L. B.: Homestead Exemption Problems in Georgia, Bulletin of the University of Georgia 39:18, 1939.
4. Citizens Fact Finding Movement of Georgia, Series 2, September, 1938.
5. Lewis, J. H.: Number and Geographic Location of Negro Physicians in the United States, J. A. M. A. 104:1272, 1935.
6. Bureau of Medical Economics, A. M. A.
7. Rappleye, W. C.: Relation of Number of Medical Graduates to the Public Need, J. A. M. A. Coll. 9:3, 1934.
8. Hyman, O. H.: Southern Medical Colleges Must Maintain Enrollment at Least at Present Level, J. A. M. A. Coll. 12:301, 1937.
9. Matas, R.: Statistical Survey of Louisiana's Physicians, New Orleans M. & S. J. 86:26, 1933.
10. Baker, J. N.: What Significance Has Alabama's Declining Medical Population? J. M. A. Alabama, May, 1938.
11. Bureau of Medical Economics. Distribution of Physicians, J. A. M. A. 110, 142B, 1938.
12. Personal Communication.
13. Hospitalization Tax by Counties, Georgia Extra Laws 1937-38.
14. Proceedings, House of Delegates, Sept. 16, 1938.
15. Bates, E.: Some Medical Statistics, California & West. Med., 38:85, 1933.

DISTRIBUTION OF HOSPITALS

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Atlanta

The Council on Medical Education and Hospitals in its nineteenth report (J. A. M. A. Mar. 30, 1940) stated that general hospital beds per thousand of population vary in the different states from a high of five to seven per thousand (California and other western states) to one to two per thousand in Kentucky, Arkansas, and Mississippi. Most southern states, including Georgia, have from two to three beds per thousand population. This report further shows that occupancy of beds in general hospitals varies from 70 per cent or more to as low as 50 per cent, and calls attention to the paradoxical fact that bed occupancy is highest in the states having the highest per thousand available beds, and lowest in the states where the smallest per thousand bed availability exists. They reason that this parallel reflects the adaptation of need to hospital construction. In the words of the report: "Hospitals have been built in response to community demand and have not, as a rule, been built where there is no demand."

No attempt is made in the Council's report to suggest the number of beds per thousand of population that are considered necessary to furnish hospitalization to all persons in a given population who might profit by such care. The report contents itself with a presentation of the ratio of beds per thousand and their occupancy, which follow the law of supply and demand when applied to that segment of society apparently able to avail itself of hospital facilities. In fact, the report states that "doubtless some states would show a higher rate of occupancy if additional funds were available for hospitalization of the indigent." It is apparent that such available funds would likewise materially increase the number of beds per thousand of population required.

It must be obvious, therefore, that even the highest bed per thousand states (five

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to seven) do not make provision for the needs of the indigent and subcomfort groups. This factor, too generally overlooked, when equitably resolved will probably make necessary the doubling of present bed per thousand ratios—in some states even the multiplying of the present figure many times—if the necessities of these neglected groups are considered.

Georgia is credited with having from two to three general hospital beds per thousand of population with an occupancy rate of 60 to 70 per cent. Education here, as elsewhere, is gradually removing such barriers as popular superstition and prejudice which operate to keep many people otherwise able to provide themselves with hospital treatment from occupying available beds. As such education progresses occupancy percentages will inevitably rise. In other words, demand will increase in the group now able to buy hospital services. But Georgia suffers from a greater handicap if perchance it stems from the same root as superstition and prejudice, viz: the lamentable fact that the yearly per capita income is so appallingly inadequate.

This income has been estimated by some to be as low as \$146.00 per capita. Without quibbling over the exact figure, native Georgians are prepared to testify to the fact that it is far below the income necessary to the demands of the age in which we live. This unfavorable economic factor means that a high percentage of our citizens fall into the indigent or medically indigent groups so far as ability to buy hospital and complete medical services is concerned. These groups making up the majority of our citizenry are unable out of their own resources to secure essential health and hospital care when the need arises. To furnish the minimum of hospitalization needed in this State, then, would require the trebling of our present two to three per thousand bed capacity. Certainly, on a conservative estimate, a building program sufficient to double the present State capacity cannot be questioned, even after full use of all present construction is discounted. Thus in lieu of the two to three beds per thousand now credited to Georgia, we need

four to six or probably ten per thousand of population if the needs of all the people are to be met. It is this deficiency problem that faces our profession and it is our responsibility, along with other groups, to create a scheme of hospital construction which will gain community support, both from the standpoint of construction and of maintenance when buildings have been acquired. For such support there is need of the mobilization of wide community interest—interest in helping the underprivileged patient, needing essential hospital care, to get it and even more; concern in providing on some equitable basis for payment to the physician of at least minimum fees for the professional care of these patients when they are hospitalized. Such is the goal which we, as the organized and responsible profession of this State should seek, and I believe it is the goal which equity prescribes.

For such an undertaking, in many Georgia communities at least, grants-in-aid, Federal and/or State will be needed. Herein, too, lies the answer to the question of unequal distribution of physicians. The problems are alike in their essence, and the remedy for one will be appropriate treatment for the other. But there is, however, an essential prerequisite. I refer to education and understanding which must precede reform. We are not profitably using the wealth which we have in no mean abundance. Much of it is squandered on things and enterprises which, if not wholly unnecessary, are certainly of relative importance when compared to the health needs of the people. We must undertake, along with many forward-looking groups who agree with us, to assist our people to develop the habit of frugality and to choose wisely the objects upon which their incomes are spent. Certainly, we have failed thus far to marshal public support of such community enterprises as are represented by the general hospital. When this interest has been secured, the way can be found which leads to the acquirement of the necessary physical and professional equipment essential in every community to meet minimum needs. Without such community interest,

grants-in-aid cannot be expected, nor if forthcoming, profitably employed. Nothing will long help those who will not first help themselves. Only after we have exhausted our community or State resources should we ask for help from elsewhere.

Having diligently cultivated the soil we will be in position to profit by the aid of others—when and if it comes. Certainly Federal or State grants can never be relied upon to do the job which community concern and pride should assign to ourselves.

COOPERATIVE PLANNING IN THE BUILDING AND OPERATION OF COMMUNITY HOSPITALS IN GEORGIA

WARE COUNTY HOSPITAL

B. H. MINCHEW, M.D.

Waycross

The Ware County Hospital was the first in Georgia so far as we can learn built with funds from a bond issue voted primarily for this purpose, and the cooperative planning for its construction was largely the work of the physicians of our community.

In 1924 a local bill was passed by the Legislature enabling the city of Waycross and Ware County each to set aside the sum of \$15,000.00 per annum over a period of five years for the purpose of constructing a city-county hospital. This method failed because neither the city nor the county could spare the funds from current revenue, and they were not inclined to levy extra taxes for this purpose.

In 1926 another bill was introduced before the General Assembly authorizing a constitutional amendment permitting Ware County to vote a maximum of \$250,000 to construct a county hospital. The amendment was carried at the next general election. The physicians of Waycross immediately made plans for the construction of a hundred-bed hospital, and asked that election be called for the purpose of voting bonds to build and furnish the institution. The effort was lost by a small majority because the number of votes necessary to participate in the election was lacking. We immediately started planning for another call with certain changes made in the building plan. On the morning of the election it began raining and throughout the day there was a downpour such as is seldom seen for a twelve-hour period. Yet,

when the votes were counted we lacked a little more than a hundred to carry the election, with ample number in favor, had the total been sufficient. Each of the campaigns was conducted by the physicians at their own expense. We held meetings in every section of the county, and conducted an educational program of health, as well as the need of ample hospital facilities. The same effort was carried to each Parent-Teachers' Association and Civic Club in the city.

The second defeat did not deter our efforts. We changed our plans, however, reducing slightly the size of the institution and the cost to \$150,000. We selected a group of business men, who were friendly and sympathetic, to conduct the next campaign. The president of one of our banks was chairman of the laymen's group. We decided to ask for a submission of five or more sites at different sections of the city to be voted on as the proper location for the hospital. You can imagine the interest our real estate men had in our third attempt. When the votes were counted, there were many hundred to spare; indeed, there were less than thirty votes counted against the issue. Naturally the worst location for the hospital won in the voting, largely from sentiment because it was the location of the old King's Daughters Hospital. We asked this organization of ladies to withdraw their location and use their old building for a children's home; which they did. Meanwhile, some of our citizens had bought property adjacent to this location for the purpose of profiting thereby, and enjoined the country authorities from building elsewhere. Not until the Supreme Court of Georgia decided a year later that the vote for location was an expression of prefer-

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ence only, could we select another site. The County Commissioners purchased a desirable location near other properties of the county for the purpose of building the hospital. We were delayed by further objections from some of our people who conducted public meetings and circulated petitions against the location, and the physicians had to fight this out to protect our county authorities, before the construction could actually begin. We were delayed another six months in this effort.

The contract for the building of the Ware County Hospital was finally let in the fall of 1931, at the peak, possibly, of the greatest financial depression our country has ever experienced. Banks were failing all over the State, industry was paralyzed, farm commodities being sold at a loss, and mortgages foreclosed because of inability of debtors to pay even the interest on same. The building was finished in May, 1932, the equipment bought and placed during the month of June, and on July 5, 1932, eight years after our first effort at a bond issue, our hospital opened for service after overcoming possibly a greater number of obstacles than any similar program in the history of our community, and possibly the State.

We have related our difficulties to emphasize certain things with regard to building a community hospital. In the first place, our hospital is entirely too small. We have outgrown it in seven years. If we had been able to carry the measure for \$250,000.00 we could have built a hospital which would have been ample for ten or fifteen years. We should have interested our business men in our first effort. Laymen do not regard physicians' opinions on any project which means the outlay of money. We are regarded as poor business men. Private hospitals, if any, in small cities should be merged with the community institution. Happily, our physicians had worked together in the small King's Daughters Hospital, and no private enterprise had developed.

Our physicians had developed a common bond of devotion and sympathy because of the vicissitudes we had encountered during

the period of eight years' effort in a common cause, and we were ready for the organization of a staff. Our constitution and by-laws provide that no physician should be at the head of any department of charity service who was not capable of rendering the highest type of medical and surgical skill. Every physician in Ware County is permitted on our staff, providing he is a member of the Ware County Medical Society and the Medical Association of Georgia, and has resided in our location for a period of one year. This latter provision prevents the "fly-by-night" fellow from working in our hospital. We accept on the associate staff any reputable physician from our adjoining counties. This permits hospital contacts for them in the treatment of their patients, and creates good will for the institution. Likewise our hospital gives most reasonable rates for the charity cases of our adjoining counties when authorized by the county authorities, and our staff members render free service to them as we do our own county charity group. The function of a city or county hospital, which has the whole county to serve, should be fully understood. It has the charity as well as the potential pay patients to accommodate. Rates must be in keeping with similar institutions, public or private, in larger centers. The officers of the county or city, whose duty it is to operate the hospital, must be supported in the position that it is not the duty of the unfortunate sick man able to pay to be charged rates sufficient to cover the cost of caring for the charity group. Our county appropriates \$1,000.00 a month for the support of this service. We operate an outdoor patient department which cares for a greater number than is admitted to the hospital. A financial statement is furnished the public through the press at frequent intervals, and we are constantly building a spirit of loyalty to the institution with our people, so that a wise business operation of the institution may be maintained. The admission of charity patients is not influenced or controlled by any physician or member of the staff, but is the work of an intelligent person whose investigation determines the merit of the case without embarrassment

to the patient. This applies to routine admissions. Emergency patients are admitted, as expected, without delay.

Selecting hospital personnel is most important. Everyone connected with the institution should be taught the value of good will as an asset to its success. We remind our personnel frequently that they are dealing in nearly every contact with a person sick in mind and body, and that visitors must be regarded in the same way because of the stress and apprehension which they are undergoing. Our most dependable nurse is subject to call for emergencies. A resourceful person is required in the management of all situations developing in some of our automobile accidents in which many persons are frequently injured. Aside from professional service, details protecting a person's property is part of our duty. It is easy for money, jewelry and valuables on the person of an injured victim of a highway accident to be stolen or misplaced by someone present or by a hospital attache. We are prosecuting this week two cases of this nature, and our vigilance in this connection is well known and appreciated by our people.

We have no overlapping services in our hospital. A physician is either on the surgical group, or medical, or associated with some of the specialties. Every department of our hospital service conducts free clinics both for bed patients as well as the out-patient department. Our obstetrics service has enjoyed a wonderful patronage. In 1933, a little more than five per cent of the babies born in Ware County were delivered in the hospital. Last year, 44.8 per cent were hospital cases. We give a \$40.00 rate for 8 days in a semi-private room for the entire service. Since 1933, we have admitted up to January 1 of this year, 14,039 patients, and treated in the out-patient department about the same number. These patients were admitted from 105 counties in Georgia, and from thirty-one states of our nation, not including our own. Ware County was one of the first to adopt the Ellis Health Law, and our health department operates

under this measure. Our health commissioners assist members of our staff in conducting venereal control and treatment clinics, both white and colored, and we have a city ordinance requiring all food handlers, domestic and public, to submit to diagnostic tests for all types of social diseases. We conduct a well-baby clinic, a prenatal clinic, and our hospital is one of the designated cancer centers by the State Board of Health.

Our experience with hospital insurance is very favorable. Last year we handled eighty claims, or insured persons, and the hospital was paid \$4,029.60, with an average of \$50.37 per patient. The first three months of this year we admitted forty-two policyholders, and have collected \$44.00 per patient from insurance companies. There was a decline in our charity load last year, and we believe that this was due in some measure to hospital insurance. We feel that hospital insurance is going to create the need for extension of all types of hospital service.

Cooperative planning overcame the difficulties in building our hospital, and the same attitude has prevailed in its successful operation. A community, state or national health program must come from the wise leadership of its physicians, and must be maintained likewise. To suppress personal initiative and resourcefulness will neither be wise nor practical. The practice of medicine is not a trade nor a means of employment, and if we are subjected to federal control which has no higher thought for the finer ideals of our profession, both the profession and the program will ultimately dissipate themselves.

REPORTS SULFAPYRIDINE OF NO VALUE FOR PULMONARY TUBERCULOSIS

Sulfapyridine proved of no value in the treatment of seven patients with active pulmonary tuberculosis. Stanton T. Allison, M.D., and Robert Myers, M.D., New York, report in the Oct. 28 issue of *The Journal of the American Medical Association*.

"The object of our study," the two physicians say, "was to ascertain the immediate effects of the drug on the tuberculosis over a relatively short period of time. No evidence was obtained to indicate that sulfapyridine influenced the course of the tuberculosis in these cases."

BULLOCH COUNTY HOSPITAL

A. J. MOONEY, M.D.
Statesboro

In cooperative planning of community hospitals in Georgia the following statistics taken from the hospital number of the *Journal of the American Medical Association*, March 30, 1940, are enlightening: a hospital survey of Georgia shows that, exclusive of the Milledgeville State Hospital, there are 9,177 beds in registered hospitals and related institutions. Of these the average daily census shows that 62.8 per cent of the beds are used. On the basis of the population of Georgia it shows that there are about two beds per thousand inhabitants. This is compared with 3.1 beds per thousand inhabitants throughout the nation. This is due to a great extent to the people not having become hospital conscious, but with the numerous forms of group hospital insurance that are becoming more popular, the strong probability is that more beds will be used.

Further study of the figures show that there are 4,238 of the beds in the four largest cities, Atlanta, Savannah, Augusta and Macon, which have a combined population of 570,120 leaving 4,939 beds or one to every eight hundred persons for the remaining population for the State of Georgia. This means that there are some places in Georgia where a community hospital could be of great service. It should go beyond the ordinary conception of a hospital and should be used as a community health center. Not only should routine medical and surgical services be rendered, but through them should be the dissemination of knowledge of prophylaxis and hygiene, working in close cooperation with county health units in those counties in which such units exist. If it were possible to convey proper information to the younger women in the communities concerning the rudiments of home nursing and infant care and also the rearing of a family from a health standpoint, it would render a great service to the community. Communities by so doing would follow the

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outlines for the new hospitals proposed by the Federal Government and it would probably be a great step in proving that the community hospital could care for its own problems, thereby lessening the tendency to such an institution that might be under Federal control.

In building a community hospital the size of same should be determined by the population that is to be served. On that basis the Bulloch County Hospital was constructed. It is a three-story, fireproof building and has fifty beds. There is a main operating room, minor operating room, emergency operating room, delivery room, autopsy room, and the necessary laboratory rooms that are found in approved hospitals. Furthermore with the idea of emergencies and disasters in mind, it has been so constructed as regards light plugs and so finished that each room, in an emergency, could be used as an operating room, conveying the necessary operating light by way of the elevator to any floor. It costs approximately \$85,000, with WPA furnishing 45 per cent and Bulloch County furnishing 55 per cent of the funds. It is county owned. The immediate government is by a Board of Trustees composed of five, these being appointed by and answerable to the Board of County Commissioners. The nursing staff is under control of the Board of Trustees. The medical staff is composed of the doctors of the city of Statesboro and Bulloch County who have regular monthly staff meetings in accordance with the rules for an approved hospital as laid down by the American College of Surgeons. So far, from a financial standpoint, it has been self-sustaining. An inquiry among the medical profession has shown that all worthy charity cases have been cared for.

The ideal plans for a community hospital and health center may be summarized as follows: The capacity should be calculated on the basis of population, the proximity to another established hospital and the industrial needs. It should be financed if at all possible so that there may be no possibility of any degree of regimentation through Federal control.

There should be perfect harmony between

the administration, the nursing staff and the medical staff; frequent conferences between a representative of each of these bodies will create a sympathetic understanding of the problems which always come up, and which, when understood from the standpoint of each representative, will always result in a better service on the part of the hospital.

The aim of all should be a hospital approved by the American College of Surgeons and American Hospital Association. In attaining that aim the meetings of the medical staff will bring about a closer fellowship among the members. Probably the greatest benefit to the doctors would be the keeping of records so necessary for approval and so valuable; for statistics from these records with the passing years will make a splendid foundation for scientific study and will be a constant, silent urge to do better work. By so doing, ever keeping in mind the necessities of community service as already outlined there will be a nearer approach to such an ideal.

CITY-COUNTY HOSPITAL

ENOCH CALLAWAY, M.D.
LaGrange

The City of LaGrange for many years operated the Dunson Hospital. This hospital was inadequately housed and was not originally planned and organized in the proper manner. There were no rules nor regulations governing the staff nor means by which the opinions of the staff could be conveyed to the board. Financial support was very often so meager that equipment and supplies could not be properly maintained. The services were not organized and charity patients were admitted entirely at the pleasure of the superintendent. No amount of excellent work by individual members of the staff could make such an institution satisfactorily meet the needs of the community for hospital and medical care.

After several years of effort on the part of a few doctors and other public spirited

citizens the general public was made to realize the need for a hospital correctly organized, housed and financed, which would care for the charity and private patients both from the city and county. After demands for improved hospital conditions had become general, plans were presented for a City-County Hospital and accepted immediately by the LaGrange City Council and, after some discussion, by the Troup County Commissioners.

The organization plan was for a hospital jointly owned and operated by the county and city which would care for private and charity patients. This hospital was to be maintained and operated to meet the standards of the American College of Surgeons. Sufficient financial support was asked to assure continued standard maintenance and operation. The Troup County Medical Society was recognized as the judge of staff competence.

Following acceptance of the organization plan, a building committee was appointed. This group made a careful study of local hospital needs and also a study of the actual operation of similar hospitals in other communities. The information gathered was presented to their architects to be used in planning the hospital building. The thorough work of the building committee with the excellent cooperation of their architects resulted in a building of maximum usefulness and at the same time a very low cost per bed.

Compared to other hospitals of similar construction and equipment the cost per bed of \$3,131.58 is extremely low.

The hospital is incorporated as a City and County owned institution. It is governed by a board of directors appointed as follows: Two members by Troup County, two members by the City of LaGrange, two members by the Callaway Foundations and three members by the Troup County Medical Society. Appointments are for three years. No member can succeed himself. Political control of this board is almost impossible. Eligibility to the general staff consists in being a member of the Troup County Medical Society. Additional requirements for the attending staff have been

approved when presented by the members of the services concerned and recommended by the entire staff. These requirements call for additional training and hospital experience in the specialty selected. Senior members may have juniors who do not meet these requirements. Attending staff members receive no pay for their services to charity patients. As will be shown this service rendered by the staff is much greater than the average physician or the general public realizes. A versatile and competent staff is very necessary for the success of a community hospital. In the final analysis, while proper buildings and equipment are a great help in treating patients, a competent doctor is the most essential element. Hospitals should not be built in localities where a competent staff is not located nor where there will not be sufficient use of the facilities to attract men well trained in the various specialties.

The hospital is of fire-proof construction and has a capacity of sixty-three beds with all necessary facilities including air conditioned operating suite and adequate waiting rooms and treatment rooms for out patient clinics. There is a well equipped x-ray department and laboratory. The original cost of plant and equipment and the sources from which the funds were obtained are as follows:

Funds were received from:

Callaway Foundations	\$ 40,000.00
City of LaGrange.....	33,281.25
Troup County	33,281.25
P.W.A.	87,138.88
W.P.A.	3,588.93

Total\$197,290.31

Disbursements

Land	\$ 15,000.00
Hospital	155,033.50
Equipment	13,782.46
Nurses' Home	9,806.00
Colored Nurses' Home.....	3,668.35

Total\$197,290.31

The following figures show that a well organized, well equipped hospital with a competent staff will increase the confidence of the public and cause constantly increased use of hospital facilities.

Average number of patients per day:

1937—5 months	20.6
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1938	25.5
1939	31.7
1940—2 months	40.0

This has been a gradual and consistent increase and will make an addition to the hospital necessary in the near future. This was anticipated and administrative and other facilities such as the kitchen, the operating room, etc., were planned to care for a one hundred and twenty bed hospital. Additional bed space and equipment should cost less than \$2,500.00 per bed.

The number of patient days and type of service rendered should be valuable as an aid in deciding the proper ratio of private rooms to wards. This is given in the following table:

TABLE 1

	Private	Ward	Free	Total
1937—5 months	1003	1103	715	2831
1938	2436	3955	2930	9321
1939	2423	5223	3943	11594
1940—2 months	594	933	818	2405

This shows that full pay patients use 25 per cent, part pay 43 per cent, and charity patients 32 per cent of hospital days. It is also interesting to note that use of private rooms has not increased. Pay ward use has increased 25 per cent and charity patient days 34 per cent. The increased use of pay wards is partly due to a realization by patients of moderate income that excellent service may be obtained in two-bed wards. Many of these patients formerly occupied private rooms which they could not afford if they hoped to make any payments to their physicians. It is, therefore, apparent that private room patients have actually increased although the use of these rooms has remained stationary.

Troup County has an urban population of about 25,000 and a rural population of about 15,000. Approximately 40 per cent of the urban or 25 per cent of the total population are textile workers and their dependents. This is important when considering the above figures.

The collections, operating costs, expenditures and deficit with cost per patient day and cost per charity patient day are given for 1938 and 1939. The operating cost is obtained by difference in inventory values at the beginning and end of the year, all

funds spent for operating, maintenance and repair, plus depreciation. The deficit is the net amount furnished by the city and county, whether used for operating costs or new equipment. The cost per charity patient day is based entirely on the deficit. The cost per patient day is based on the operating cost.

	<i>Collections</i>	<i>Expenditures</i>	<i>Operating Cost</i>	<i>Deficit</i>
1938	\$28,859.31	\$45,753.27	\$47,876.97	\$16,893.96
1939	38,643.63	52,442.14	52,242.25	13,798.51

The amount of \$3,478.23 was spent for paving driveways and purchasing new equipment. This was not operating cost. The amount of \$2,278.34 representing depreciation and change in inventory values is included.

	<i>Cost Per Patient Day</i>	<i>Cost to City and County Per Charity Patient Day</i>
1938	\$5.11	\$5.78
1939	4.51	3.49
Average for two years		
	\$4.78	\$4.45

Newborn days are not included.

The above figures show that the first year's operation of a hospital, while organization problems are being settled, is very expensive. After one year the costs of a community hospital caring for free and pay patients will generally be about 25 per cent of annual expenditures or about 10 per cent of the original cost of the building and equipment. Arrangements should be made to care for this deficit before hospitals are constructed. If this cost can not be cared for by a community, no hospital should be built for it will soon degenerate into a second rate boarding house for sick people and become the type of institution which destroys confidence both in hospitals and in the medical profession.

The service rendered to the community by the City-County Hospital and its staff, in the two and one-half years since its organization, has convinced everyone in the county of its value. While original funds were difficult to secure its proven value has been such that it is considered by both the county and city as an asset.

Careful cost records are kept and from these the next year's deficit is estimated.

When presented the city and county cheerfully make appropriations to cover the estimated needs.

Conclusions

1. A modern standardized hospital having a competent staff will be recognized as an asset to a community.

2. Hospitals should not be built unless assured of financial support and unless in localities where they have or can obtain competent medical staffs.

STEPHENS COUNTY HOSPITAL

CLARENCE L. AYERS, M.D.

Toccoa

The general public is concerned as never before as to the importance of public health measures. The press gives liberal space in its daily and weekly papers to health problems. The medical profession, due to its special training along health lines, should and will take the lead toward stamping out diseases. Many improvements have been made in recent years toward the prevention and cure of diseased conditions. Medicine has been gradually undergoing a steady evolution toward the consummation of the desired result of making the world a healthier place in which to live.

One of the important aids in reaching this goal is the establishment of small, well equipped hospitals in small towns serving rural communities. One of the drawbacks to building hospitals in rural communities has been the lack of funds for erecting buildings, and the general impression that small hospitals could not be self-sustaining.

The former condition has been overcome to some extent by Federal funds being available, and the latter by good management.

Stephens County was about forty miles from the nearest hospital, and the community felt greatly the need of a hospital.

Hoping that it will be of some benefit to other communities similarly situated I will give you some of the details of the building and operating of the Stephens County Hospital. The time allotted to this paper will not permit me to go into many

details, but I will try to bring out the main points.

A group of interested citizens got together and, after investigating, found that if the county would issue \$20,000 in bonds payable over a period of twenty years, that they could secure about \$50,000 of Federal funds as a grant.

The bonds were voted with practically no opposition, the Federal funds secured after much politicking, and when all the funds were spent they needed about \$5,000 additional to complete the building. The county managed to get that somewhere. So they expended about \$75,000 and as a result it has a nice cream brick building, modern in every way, with a capacity of thirty-five beds. The work was done by WPA labor.

Practically all of our citizens were inexperienced in building a hospital, and made some mistakes, as all communities do. One of them was that they used every available dollar to build and had nothing left to equip the building.

The county commissioners said positively and wisely that they would not operate it because they knew nothing about running a hospital, and if they were to run it everyone would want to be treated free. So the county owned a hospital and not a piece of equipment in it and no one to run it.

Then the interested group got together and organized a stock company, had it incorporated, and placed the shares of stock on sale at \$15 per share. They were placed at this low figure in order to get as many people interested as possible. Some took one share and others seven or eight shares. All that bought stock realized that it was practically a donation.

About \$3,000 were subscribed in stock. Then most of the rooms were furnished by enterprising people as memorial rooms. The subscribed stock and memorial rooms together amounted to about \$5,000.

Then a stockholders' meeting was called and a constitution and by-laws adopted. I cannot go into all the details, but one of the by-laws provided that every physician in the county that belonged to the Stephens County Medical Society would automatically be on the board of directors. This elimi-

nated all irregulars from getting on the board. It further provided that there would be one layman to each physician and as there are seven physicians in the county, all members of the county medical society, that would be a board of fourteen members. Another by-law provided that each shareholder would have only one vote in electing directors regardless of the number of shares he owned. That would take away the temptation to buy up the stock to get control of the hospital. The lay members are elected annually by a vote of the stockholders.

Then the directors took charge, and found they needed another \$5,000 of equipment to begin operation in good shape. This they bought on credit and began operation. A superintendent was elected and was given authority to hire and fire her help. The directors meet monthly and check over all receipts and disbursements, and outline the policies for the management of the hospital. The rooms run from \$3 to \$6 per day and other fees are average for small hospitals. No patient has ever been turned away on account of inability to pay, either in Stephens County, or surrounding counties. The hospital gets the bills if it can, and if it cannot it loses it.

The hospital has been running two and one-half years, and has owing to it about \$4,000 from charity patients, most of which they will never collect, but with this loss it has cleared some money each month and has paid off all its indebtedness, and has a little money in the bank. The bonds are being retired by the county as they come due. The county has been donating to the hospital \$50 per month to aid in the treatment of charity patients.

The directors have worked in perfect harmony, and each doctor in the county feels a personal pride in the institution.

In most small hospitals about 75 per cent of the cases are surgical, so for the success of the hospital it is essential that some of the members of the profession be well trained to do surgery. It is also a great convenience and help to the physician who does not do surgery as it affords him a place to have his surgery done without having to leave home with his patient; also he

can carry his medical and obstetric cases there if he desires without getting permission from anyone.

Georgia has so many small counties that it would not be practical for every county to have a hospital, but in certain selected places serving four or five counties to have a small well equipped hospital would aid materially in solving our health problems.

Many patients, by having early and proper hospital treatment, can be restored to health who otherwise would surely die.

Community hospitals would help to solve the problem of distribution of physicians, as more of the young men would be willing to locate in the small towns if they had a hospital so that they could treat their patients as they had been taught.

Community hospitals can be self-sustaining if well equipped, the medical personnel adequate, and if properly managed.

If your community needs a hospital try to secure it while Federal funds may be available.

SUGGESTIONS FOR THE IMPROVEMENT OF MEDICAL CARE IN GEORGIA

JAMES E. PAULLIN, M.D.

Atlanta

From the papers which have been presented as part of this symposium we have had a restatement of facts which have been known for a long time and we have had presented evidence of effort to overcome some of the obstacles in rendering good medical care to the people of this State. Of great importance now is the need to increase our effort to overcome unfavorable conditions which now exist. Progress has been made by the profession in dealing with many of these problems. It is necessary that we continue to exert every effort to improve existing conditions.

The furnishing of good medical care requires the combined cooperative and understanding effort of a group of individuals as represented by physicians, dentists, nurses, pharmacists, sociologists, hospital

administrators and particularly of importance is the industrialist, the public at large and the individual who needs medical care. Without the full and complete cooperation of all of these it is impossible to supply in any given community acceptable medical care for those who are healthy as well as for those who are sick. The person who is able bodied and who follows his daily occupation may think that this is no concern of his. Yet he loses sight of the fact that, if he did not receive the benefit of medical care in one form or another, he might be drinking polluted water or milk or be exposed to many devastating diseases.

The problem of furnishing medical care is not one easy of solution. Its needs vary with location, type of population, educational achievements, and the financial status of the individual as well as the community. There is no general plan which can be suggested that will perfectly solve the problem in every locality. There are certain methods of procedure which can be utilized in bettering conditions and I believe that changes can be made in methods of procedure which will help to perfect plans already devised. The suggestions which I have to offer may be grouped as follows:

(1) I would urge that there be a statewide conference sponsored by the Medical Association of Georgia which is to be participated in by leaders of various interested organizations who would like to make more readily available good medical care for all of the people. At this conference there should be representatives from various professional groups, including physicians, public health authorities, dentists, nurses, pharmacists, sociologists, hospital administrators, as well as representatives from the public at large, particularly those who are to receive medical care and from that group who must contribute to its support. At this conference the best methods of approach in furnishing good medical care in a given state or locality could be discussed and some plan formulated which would be a beginning toward the establishment of a sound program.

For many years it has been the assumption that the rendering of good medical

care is the responsibility of physicians alone. This is not true. It is just as much the duty and obligation of a community to make it possible for the physicians to render good medical care and to assist in this objective, as it is the physician's.

(2) Stimulation of a desire on the part of individuals to seek good medical care and to accept it when available. This task within itself is not easy. It must be remembered that the recipient of medical care is a human being subject to doubts, superstitions, suggestions and influences which are predominant in his environment. Being human and subjected to such influences he may depend for a cure upon some weird procedure or method which has been advocated and endorsed by a sincere but ignorant friend or by some quack. Self-diagnosis of disease and self-treatment is still a common method of procedure as evidenced by the tremendous sale of patent medicines and the hundreds of thousands of dollars exacted each year from the public by charlatans and quacks.

Such methods of human behavior always have been with us and always will be. As time passes, however, this is steadily improving. Discussion of this particular problem alone might possibly lead the group to endorse an intense health educational program not only in relation to prevention of disease but in encouraging people to seek early advice for diagnosis and treatment.

(3) A discussion of local and community responsibility in dealing with health problems. For example, suppose that yellow fever should make its appearance in one of our cities or counties which is not fortunate enough to have a hospital or a health officer. The public reaction to such a disaster, because of the devastating effects of such a disease, would be an immediate call upon the medical profession for remedies to prevent the spread of this disease and a demand that adequate treatment be instituted. Those who are ignorant of the cause and method of spread of this disease would immediately develop a certain amount of hysteria. Those who know the facts about this disease—the public health officer, the physicians, and

nurses, with the cooperation of local governmental agencies—would immediately provide a satisfactory place for the isolation and quarantine of these patients. Steps would also be taken to protect them from mosquitoes and effective measures adopted for the destruction of these insects. By applying existing knowledge the disease would soon be under control. In such an emergency the community would be willing to provide financial aid to make such a program effective.

This illustrates what can be accomplished by prompt action in dealing with an acute situation when local governmental authorities accept their share of responsibility. Should there be any difference between the responsibility arising as the result of such an acute dramatic situation and that of the medically needy who cannot provide adequate help? Is it not part of the community's problem to help take care of the large number of sick people who go about each day spreading disease?

(4) A discussion of methods and means of dealing with the basic problem of poor health, namely, undernutrition, poor housing, poor clothing. It is a well known fact that those of our people who are poorly nourished or improperly clothed and housed are not only more subject to disease, but when disease is contracted it is usually severer, lasts longer and has a higher mortality. Any comprehensive program must of necessity consider this as a basic factor.

(5) A discussion concerning the most effective methods to be employed in rendering good and needed medical care to the indigent and those in the low income group. It is a well known fact that in certain rural areas of this State approximately 60 per cent of the total population are scarcely able to purchase more than the bare necessities of life. When it is considered that 72 per cent of 10,860 families residing in sixteen rural counties in Georgia during the year 1935 had an income of less than \$500.00 yearly, and that among these families disease and disability were more prevalent than in other groups, isn't it reasonable to suppose that it is a community problem to assume part of the responsibility in

furnishing medical care for this group? With better health there would not only be less disease but less crime. We in this state at the present time are attempting to eradicate the effects of undernutrition and poverty rather than dealing adequately with its cause.

(6) A discussion of the part which the city, county and the State must play in financing a program for the care of the indigent, the best methods of participation in such a program. With approximately 50 per cent of the population of the 159 counties in Georgia unable to voluntarily purchase good medical care and hospitalization, and with the counties scarcely able by taxation to comfortably support its political units, medical and other care for the indigent is neglected. Should some method not be provided to overcome this?

(7) A discussion of the advisability of establishing health centers composed of six or seven counties whereby all of the activities concerning the care of the indigent—hospitals, laboratories and x-ray facilities—can be utilized in caring for a large group of patients under the supervision of a competent staff. Under such a set-up the expense of furnishing medical care would be greatly reduced.

(8) A discussion of plans which would equally distribute the responsibility of medical care on the shoulders of all.

A beginning can be made by a full, frank, unprejudiced consideration of these problems. No one person and no one group, perhaps not all groups combined, will be able to satisfactorily solve this problem. A beginning must be made toward an end. The end being that those who are unable to provide good medical care should receive it and that while they are the recipients of such care that their independence be preserved and that those who render this service do so as free individuals without political domination or regimentation.

DISCUSSION ON THE SYMPOSIUM OF THE PROBLEMS OF MEDICAL CARE IN GEORGIA

Dr. William H. Myers (Savannah): With my experience in the House of Delegates of the American Medical Association, I have heard these problems talked about for twelve years, but never with a more intelligent approach or effort to solve the problem than in this sym-

posium. I take this opportunity to express my thanks and appreciation of the efforts of these gentlemen in trying to solve this most important problem of the medical profession.

Dr. Cleveland Thompson (Millen): This thorough and thoughtful discussion of the medical problems as they confront us here in Georgia deserves our hearty congratulations. A lot of wish-thinking has been done regarding the medical and hospital services in Georgia, and this kind of thinking does not help any. A people cannot have any more medical service than somebody is able to pay for, and that somebody is ultimately the sick man.

It will bear repeating that the result of medical service is dependent mainly on the attitude of the people, and this is dependent on the salesmanship of the Board of Health and the medical profession. Salesmanship makes a man buy an automobile, whether he needs it or not, and it is our office to educate the people by acquainting them with the facts, to have what they need in medical care.

The statement that it is the duty of society to make it possible for the medical profession to give them adequate medical services will bear repetition. No county can have any better services from its physicians than its facilities make it possible for them to give, and one of the things that is necessary for a doctor to give modern medical service is a hospital. This is emphasized by the fact that the younger doctors who go out to practice in localities where there are no hospitals are forced to equip their offices with facilities for giving a certain amount of hospital care. It is absolutely impossible to practice modern medicine and surgery without a well equipped, well conducted hospital.

Certainly the public's interest and the doctor's interest are one and inseparable. Whatever is good for one is good for both and whatever is to the disadvantage of one is to the disadvantage of the other. Our State Board of Health has for many years recognized this truth.

To the sick man there is a vast difference between good medical or hospital service and satisfactory service. If and when the medical profession in Georgia becomes regimented that satisfactory element in its service will disappear. No matter what degree of excellence medical service may attain, unless it is satisfactory to the individual sick man, that service is largely a failure.

Dr. J. C. Patterson (Cuthbert): As you can see from the preceding papers and discussions, this is a very complex subject. In Georgia, rural Georgia especially, lack of proper food is largely responsible for a great deal of sickness. Dr. Abercrombie brought out something that I wish to repeat—good medical care for all the people is impossible for the present because people will not accept their responsibility. That is true. These problems are so complex, as Dr. Paullin brought out, that it is not alone the responsibility of the medical profession but the locality, state and national government, and will have to be worked out, in conjunction with them. Herein lies the danger of socialism. The theory is beautiful. Practically, it winds up like Russia.

Hitler started out to lead a Christian society party and a hell of a Christian he turned out to be! Our responsibility in this, however, is furnishing hospital beds and physicians. Now, as brought out here, we are making an approach to solve this problem. County hospitals, community hospitals, are beginning to do something. The group hospitalization is helping in the solving of this problem of maintaining these hospitals. Strictly charity patients are not being taken care of in rural Georgia at all. A per capita tax of 12 cents per person for charity patients allowing the patients to go to any hospital they desire in the state would help solve this problem. That was the first phase of our responsibility. The second phase was furnishing physicians in rural Georgia. As Dr. Paullin said, let's do something concrete. I have a suggestion I wish to read at this time.

The State probably owes everyone a grammar school education and possibly a high school education, but it would seem only fair, if one were given a professional education, that he feel some sense of social responsibility and that he should have to give something in return.

Would it not be fair and feasible for the State to require the graduates or a certain percentage of the graduates of the University of Georgia to practice for a certain length of time, probably two years, in one of these rural localities? It might be better for them to serve one year's internship before going out. A list of localities needing physicians could be filed with the Dean and he might allot a location according to the student's rating in his class. It is suggested that the State or the locality to which he goes supply him with an adequate office, a laboratory, and a car, and guarantee him a certain salary to supplement what he does not get in fees. In this way, he would be under the supervision of the school or would be sponsored by some nearby physician. At the end of his service he could elect either to remain in this locality to practice, if he wished to do so, or he might go back and become an assistant resident.

After this service, he would be a much better doctor, the rural districts would be afforded proper medical care, and he would make a much better intern on his return.

The precedent of this is well established in the Army and Navy, requiring five years of service for an education in West Point and Annapolis.

I suggest that a committee be appointed, consisting of the deans of the two schools, the Secretary of the State Association, and the President of the State Association, to work out the details, to formulate this plan, and to petition the Board of Regents to this end.

Dr. Grady N. Coker (Canton): This is one of the most interesting symposiums I have ever heard. I really think that you have something here and we are beginning at rock bottom to try to solve our problems in this State.

I shall attempt now to give you a little light on the other side of the question. That is, private ownership of hospitals and the service that we are rendering in our community. It is not my choice to run a private hospital. I would be glad tomorrow if our community would take care of the charity patients in the territory

that we have, to give them our hospital, because I believe that by so doing it would render a better service.

Our institution was started in 1923 with eight beds in an old two-story wooden building by my father and myself. Five years later that institution was enlarged and increased to eighteen beds. Five years ago we realized that our facilities were inadequate and that our hospital building was a regular fire trap so we constructed a new brick building which at the present time has a capacity of thirty beds with the possibility of increasing its capacity to sixty beds. We keep accurate records on all incomes and expenditures in our institution. In order to run a good hospital it does not matter whether it is county owned, privately owned or what not. It takes good business administration, as demonstrated here this morning by Dr. Minchew, Dr. Callaway and several others who have talked to you. Our cost per day per patient runs about \$4.80. We keep an accurate check on that each month because if you do not in an institution of this kind your overhead expense will be too much.

You will remember that during the last two years I advocated rural redistribution of doctors and to give them a small work shop in rural communities that they were to serve. We are doing some of that work on our own initiative without any outside help except the cooperation from the communities that we serve. Four months ago we opened up an eight bed clinic at Ellijay and placed one of our men in that institution. I hold a clinic day there once a week and am on call for consultation at other times. That institution at the present time is serving that community and county well, and is giving them better medical and surgical care than they have ever had before. It is paying its own expense and is paying back part of the expenditures accumulated in its establishment. At the present time one of the young physicians who is a member of our staff, is building a six bed clinic in Pickens County and I predict that he will be very successful. You may call this a chain store proposition but no one is making a lot out of it except hard work and the satisfaction of knowing that we are rendering adequate medical and surgical care to the community which we serve.

When it comes to taking care of charity patients in this institution we have never turned down an emergency case but go ahead and take care of them the best we can. During the past year the income of our institution increased \$14,000 and during the past five years our total taxes have increased from about \$250.00 per year to more than \$2,000 per year. The only outside income that we have is about \$75.00 per month which comes from our county, the Red Cross, Tuberculosis Association and the Service League.

Our institution is prepared to take care of all general medical and surgical cases, obstetrics, pediatrics, emergencies, etc. Our x-ray department consists of radiographic, treatment, and mobile outfits; also we have an adequate supply of radium. In other words we have everything that goes with a modern and up-to-date hospital. We will be glad to give our hospital to our county if it will render more adequate medical care than we are rendering in this State that we love.

PREVENTION OF CONCEPTION IN BITCHES BY INJECTIONS OF ESTRONE*

Preliminary Report

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Augusta

LEON F. WHITNEY, D.V.M.

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Prevention of conception and termination of pregnancy by injections of the estrus producing hormone were demonstrated as follows: (1) in the albino rat by Margaret G. Smith,¹ 1926; (2) in the white mouse by Parkes and Bellerby,² 1926; and (3) in the guinea pig by Kelly,³ 1931. More recently Parkes, Dodds and Noble,⁴ report prevention of conception in rabbits by oral administration of two new estrogens—ethinyl estradiol and diethylstilboestrol and in rats by small doses of the latter. They also found that ethinyl estradiol given orally was highly effective in interrupting established pregnancy in rabbits. No report on prevention of conception in an animal larger than the rabbit has come to our attention.

corpus luteum hormone in the nidation of the ovum. The estrus producing hormone causes a hyperemic state in the uterus and vagina and this condition is not conducive toward nidation. The opinion that injections of estrone cause the fertilized ova to become tubelocked is not likely correct, for if it were, tubal pregnancies would probably occur.

This report is based on injections administered to eleven bitches soon after copulation, usually beginning not later than the second day. In six animals Theelin was used and in five Amniotin, supplied by E. R. Squibb and Son.

The usual procedure was to give the contents of one ampoule (2000 I. U.) daily for six days. Two animals among the last injected were given the contents of two ampoules of Amniotin daily for six days.

The weight of the bitches varied from approximately 15 to approximately 60 pounds. The approximate weights are listed in the accompanying table (Table 1), which also gives other data concerned with the experiment.

A summary of the results shows that six of the eleven bitches injected had no puppies. Counting those whelped and the four

TABLE 1

Bitch	Wt. lbs. (circa)	Breed	Brand of hormone	No. of Injs.	Units Each	Result
1	45	Pointer	Theelin	6	2000 I. U.	No offspring
2	30	Mongrel	Theelin	6	2000 I. U.	No offspring
3	25	Wire-haired terrier mongrel	Theelin	8	2000 I. U.	No offspring
4	50	Pointer	Theelin	6	2000 I. U.	Died with 4 resorbing fetuses
5	30	Mongrel	Theelin	6	2000 I. U.	4 puppies
6	15	Silver-haired terrier	Theelin	6	2000 I. U.	No offspring
7	60	Pointer	Amniotin	6	2000 I. U.	8 puppies
8	40	Fox hound	Amniotin	6	2000 I. U.	2 puppies
9	40	Springer Spaniel	Amniotin	6	2000 I. U.	1 puppy
10	35	Mongrel fox hound	Amniotin	6	4000 I. U.	No offspring
11	50	Mongrel	Amniotin	6	4000 I. U.	No offspring

Parkes⁴ attributes failure of conception to inhibition of the effect of progesterone and prevention of implantation of the blastocysts. This is our conception also. The classic experiments of Corner and Allen,^{5 6 7} proved conclusively the role of the

conceived by the bitch that died, gives a total of 19 puppies, or an average of 1.7 per litter. The bitch that had eight puppies was the heaviest one injected and probably inadequate dosage is the explanation. It is noteworthy that the two bitches that received the doubled dosage produced no offspring.

*From the Department of Anatomy, University of Georgia School of Medicine, Augusta.

There is still not a consensus of opinion on the time of ovulation in the bitch. Whitney⁸ on the basis of observations on a limited number of bitches states that ovulation in these animals occurred on the fifth day of the copulative period.

Evans and Cole⁹ have stated that ovulation occurs early in estrus in the bitch and they concede that the unfertilized ovum may live in the genital tract for from 4 to 8 days after ovulation. This is contrary to the findings in other animals and Hartman¹⁰ states that "It seems probable that hours, not days, measure the delay that results in sterile coitus." Hammond¹¹ observed in the rabbit that "ova were only capable of being fertilized for about 2 hours after ovulation occurs."

The time of ovulation, however, should not influence the results, since the ova cannot be fertilized until copulation takes place and the injections should have the same inhibitory effects on nidation whether the act of fertilization occurs high or low in the uterine tube. It seems apparent from the results that adequate dosage is the important factor.

On the basis of these results the following dosage is recommended for veterinary use in the prevention of conception: 500 I. U. per pound (1100 I. U. per kilogram), giving in no case less than 10,000 I. U., even in very small dogs. This dosage is based on the following calculations: six bitches that did not conceive weighed a total of 200 pounds and received a total of 100,000 I. U., or 500 I. U. per pound.

Using the preparations in oil, the hormone may be given in two or three injections, rather than daily for six days. Biologic supply houses put up preparations of estrone that would permit two or three injections totalling approximately the amount indicated.

It is evident that the data upon which this dose is based are not sufficient, and further study of the problem is necessary. If the dosages recommended are employed, however, the result will almost certainly be satisfactory, and if the adequate dosage can be obtained at a reasonable cost, the demand will no doubt be large.

BIBLIOGRAPHY

1. Smith, M. G.: On the Interruption of Pregnancy in the Rat by the Injection of Ovarian Follicular Extract. *Bull. Johns Hopkins Hosp.*, 39:203 (Oct.), 1926.
2. Parkes, A. S., and Bellerby, C. W.: Studies on the Internal Secretions of the Ovary. II. The Effects of Injections of Oestrus Producing Hormone During Pregnancy. *J. Physiol.*, 62:145 (Dec.), 1926.
3. Kelly, G. L.: The Effects of Injections of Female Sex Hormone (Estrin) on Conception and Pregnancy in the Guinea Pig. *S. G. & O.*, 52:713 (Mar.), 1931.
4. Parkes, A. S., Dodds, E. C., and Noble, R. L.: Interruption of Early Pregnancy by Means of Orally Active Oestrogens. *British Med. J.*, 2:557 (Sept. 10), 1938.
5. Corner, G. W.: Physiology of the Corpus Luteum. I. The Effect of Very Early Ablation of the Corpus Luteum upon Embryos and Uterus. *Am. J. Physiol.*, 86:74 (Aug.), 1928.
6. Corner, G. W., and Allen, W. M.: Physiology of the Corpus Luteum. II. Production of a Special Uterine Reaction (Progestational Proliferation), by Extracts of the Corpus Luteum. *Am. J. Physiol.*, 88:326 (Mar.), 1929.
7. Allen, W. M., and Corner, G. W.: Physiology of the Corpus Luteum. III. Normal Growth and Implantation of Embryos after Early Ablation of the Ovaries, etc. *Am. J. Physiol.*, 88:340 (Mar.), 1929.
8. Whitney, Leon F.: The Mating Cycle of the Dog. *Chase Mag.*, 7:5-8 (July), 1927.
9. Evans, H. M., and Cole, H. H.: An Introduction to the Study of the Oestrus Cycle in the Dog. *Me. Univ. of Calif.*, 9, No. 2, 1931.
10. Hartman, C. G.: Observations on the Viability of the Mammalian Ovum. *Am. J. Obst. & Gyn.*, 7, (1): 1 (Jan.), 1924.
11. Hammond, John: Reproduction in the Rabbit. Oliver and Boyd, Edinburgh and London, 1925.

SULFANILAMIDE IN THE TREATMENT OF TULAREMIA

Further Studies

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On May 4, 1939, I¹ presented before the Fulton County Medical Society a woman who had been successfully treated for tularemia with sulfanilamide. A week after cleaning a rabbit an ulcer appeared on her finger, and constitutional symptoms developed. Two weeks later agglutination test for *Pasteurella tularensis* was positive in dilution of 1:320. Sulfanilamide was administered with prompt subsidence of symptoms. Six weeks after the first test, agglutination was positive in dilution of 1:5,120.

Dr. W. W. Turner, of Nashville, Georgia, tells me that he saw a case of the ulceroglandular type something more than a week after onset; he administered sulfanilamide with prompt and uneventful recovery.

Dr. Thomas T. Mitchell, of Brawley, California, writes that he saw a young man who had been bitten by a ground squirrel ten days earlier. The agglutination test was positive in dilution of 1:1,280. Sulfanilamide was given in large doses for five days with relief of symptoms. Nine days later symptoms recurred, but they cleared up permanently after a second course of sulfanilamide.

Dr. Steve P. Kenyon, of Dawson, Georgia, has reported two most interesting cases:

He was called to see M. T., a Negro housewife, aged 38, who was complaining of sore throat and general

malaise since a chill the night before. Her temperature was 104, her pulse 130. Thick, dirty, gray membrane covered both tonsils and the pharynx was acutely inflamed. Smear not revealing *Corynebacterium diphtheriae* a diagnosis of streptococcal sore throat was made and sulfanilamide administered.

The next day M. T. was seriously ill. On that visit Dr. Kenyon was asked to see her mother, L. G., who had on the left index finger an ulcer of a week's duration. She exhibited moderate enlargement of the epitrochlear and axillary lymph nodes. L. G. gave a history of having cleaned and cooked a rabbit for the family ten days earlier. A tentative diagnosis of tularemia was made.

Six days after the chill M. T.'s condition was unchanged. A second smear revealing a few Vincent's organisms, sulfanilamide was stopped, and several doses of mapharsen were administered. Meanwhile the diagnosis of tularemia in the mother had been proved by an agglutination test, sulfanilamide had been administered and L. G. had improved satisfactorily.

A week later M. T. was still suffering with a high fever, the tonsils were still covered with that dirty membrane, and enlargement of the cervical glands was noted. Because of the adenopathy and of the proven case of tularemia in the household, blood was taken for an agglutination test: this was reported positive. On the nineteenth day of the illness a large suppurating gland on the left side of the neck was incised and improvement began. Two days later the temperature was normal for the first time and shortly afterward she was dismissed as well.

In Dr. Kenyon's opinion, the daughter was infected with the organism of tularemia directly through the mucous membranes of the mouth and throat. He emphasized that the mother did not develop suppuration and was completely well fourteen days after sulfanilamide was begun.

Discussion

Certain other physicians have not found sulfanilamide so efficacious, but I have not been able to secure detailed reports from them. I am led to believe that some of their work was experimental: it is possible that animals were inoculated with *Pasteurella tularensis* and sulfanilamide started at once.

Dr. Kenyon's cases, it seems to me, provide an explanation of the discrepancy. In the cases of Dr. Turner, of Dr. Mitchell and of L. G., sulfanilamide was started from ten to twenty days after the infection and results were as good as in the one originally reported by me. In the case of M. T., however, because of an erroneous diagnosis, sulfanilamide, given within twenty-four hours of the first fulminating symptoms, proved ineffective. In this case it would

appear possible that the infecting organism was conveyed from the finger of the mother to food eaten by the daughter, i.e., that the infection was not direct from the rabbit.

Ballenger and his associates,² among others, have emphasized that the success of sulfanilamide therapy depends largely upon the aid it extends to the defense mechanisms of the body. "Numerous observers have noted that better results were obtained in the treatment of gonorrhea when the use of sulfanilamide was started after the infection had been present two weeks or longer." With regard to hemolytic streptococci, Keefer³ states that "there are good reasons for believing that, when recovery takes place, it is through the cooperative activity of the drug (sulfanilamide) and the normal defense mechanism of the body."

It is my belief therefore that, when tularemia has been present more than a week, sulfanilamide is a specific, but that in the first few days before the defense mechanisms have developed it is of doubtful value.

Conclusions

Four cases of tularemia were successfully treated with sulfanilamide, which was first administered more than a week after the beginning of the disease. In one case sulfanilamide was given within twenty-four hours of the acute onset of the illness and it did not prove beneficial.

It is the present consensus that best results are obtained in the treatment of infections with the gonococcus and the various forms of the streptococcus when sulfanilamide is not started until the body has had time to elaborate its own defense mechanisms. Analogously, in my opinion sulfanilamide should not be used during the first few days of tularemia but it is invaluable when instituted after the defense mechanisms of the host have been brought into play.

REFERENCES

1. Curtis, W. L.: Sulfanilamide in the Treatment of Tularemia, J. A. M. A. 113:294 (July 22) 1939.
2. Ballenger, E. G.; Elder, O. F.; McDonald, H. P., and Coleman, R. C., Jr.: Failures in Treatment of Urinary Tract Infections with Sulfanilamide, J. A. M. A. 112:1569 (April 22) 1939.
3. Keefer, C. S.: Sulfanilamide: Its Mode of Action and Side Effects, Med. Clin. N. America 23:1133 (Sept.) 1939.

THE PRESIDENT'S PAGE

APPENDICITIS MORTALITY

Since appendicitis was first described by Dr. Reginald Fitz in 1886 the mortality from the disease has gone up and down in cycles, and very little in the manner of treatment in lowering the mortality has been added since the days of Murphy and McBurney in the gay nineties.

In 1913, the death rate from appendicitis per hundred thousand population was 6.4 and in 1936 it was 17. Bower states that the death rate per hundred thousand was 22.3 per cent higher in 1923 than it had been ten years before, and his conclusions were that the pre-hospital management of the patient was largely responsible for this excessive mortality.

In Massachusetts, the death rate increased from 8.7 per hundred thousand population in 1900 to 11.2 in 1936. In 1900, there were 243 fatal cases recorded, whereas in 1936 there were 490.

Bower also predicted that in 1939 no less than 20,000 persons would die of appendicitis, at the average age of 27 years, that less than 2,000 would die of appendicitis, but that 17,000 would die of peritonitis arising from their appendicitis being neglected until too late, and that of the 300,000 who would be operated on for unruptured appendicitis only 10 per cent would die.

At the present time, there is considerable discussion going on as to the best method of treatment in those cases seen late, as to whether to operate immediately or to wait until it has become well walled-off; that is, the regulation treatment of Deaver or the Oschner treatment.

What we are concerned with here is the mortality rate in Georgia, and what can be done about it. For the last twenty years it has varied up and down from a low of 11.6 to a high of 15.3 death rate per hundred thousand.

We all know that this high death rate is due to the delay in operation and the pernicious habit of taking purgatives in the presence of abdominal pain. The danger of taking purgatives has been proved many times, but in a recent article Reid has shown that 58 per cent of the patients with per-



forated appendices had taken purgatives, while in a series of unruptured, 36.7 per cent had taken purgatives; almost twice as many ruptured when purgatives had been taken.

The Pennsylvania Medical Society, several years ago, began a campaign of education of both the doctors and the laymen on the importance of early operation and the danger of taking purgatives in abdominal pain. They did this through lectures, moving pictures, billboard posters, and stickers on purgatives dispensed by druggists. The campaign has produced remarkable results, as is shown by the reduction of their mortality to 2.6 per hundred thousand population.

We have planned a similar campaign in Georgia under the able leadership of Dr. T. C. Davison, of Atlanta, chairman of the Committee to Reduce the Mortality in Appendicitis. He has appointed a member of this committee in each congressional district who will appoint subcommittees in each county. Thus, we will be able to cover the State by lectures describing the early symptoms of appendicitis, the danger of delay in getting them to a surgeon, and the danger of taking purgatives. Since 40 per cent of these cases occur in high school children, one lecture a year to each high school should go a long way in lowering the mortality. This committee also contemplates newspaper articles, posters, exhibits, and moving pictures as other means of educating the public.

J. C. PATTERSON, M.D.

THE JOURNALOF THE
MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

JULY, 1940

MEDICAL PREPAREDNESS

As this Journal goes to press the National Defense Program is getting under way. In that program will be included the all-important medical personnel, and the supplies used for the prevention and treatment of disease and injury during a time of national emergency.

The Medical Association of Georgia has been requested to cooperate with the Committee on Medical Preparedness of the American Medical Association in its work to aid the Federal Government in perfecting the defense program. The Executive Committee of the Association has appointed Dr. Edgar H. Greene, of Atlanta, State Chairman of the committee on Medical Preparedness. Named to serve with Dr. Greene are the Councilors and Vice-Councilors of the Association. The committee will be enlarged to include at least one physician from each county medical society in the State.

Very soon each Georgia physician will receive a questionnaire from the American Medical Association, as evidenced by the following communication from Dr. Irvin Abell, of Louisville, Ky., Chairman of the Committee on Medical Preparedness of the American Medical Association. Needless to say, each physician should give prompt attention to the questionnaire:

"In response to a request from the Surgeon Generals of the Army, Navy and Public Health Service the American Medical Association has set its machinery in motion to secure information relative to the availability and qualifications of professional personnel for service in the federal preparedness program. Since mental and physical health is of fundamental importance in the prosecution of such a program, the doctor, with a knowledge of the measures essential to the conservation of health, the prevention and cure of disease, is in a position to make a signal contribution to its success. The medical profession, actuated by a high sense of patriotism and civic responsibility, has freely proffered its help in every emergency with which the government has been confronted. The American Medical

Association has always unfailingly placed its facilities at the disposal of the constituted authorities. During the first world war 32,000 of its members voluntarily served with the armed forces and many more thousands participated in various helpful capacities. Soon a letter and a schedule will reach you on which you may supply information necessary to enable our nation, in an emergency, to call on physicians for the services they are best equipped to render. The reply of the profession to this call for help will by its generosity and spontaneity demonstrate that medical men continue to be not unmindful of the obligations which intelligent citizenship entails and as well not only their willingness but their determination to fulfill them."

HOW ABOUT YOUR ETHICS?

Framed and hung on your office walls and used as a shrine where each day you should go and read, ponder its import, and rededicate yourself to the altruism it declares, should be a copy of Dr. Robert Louis Stevenson's "Eulogy of the Doctor." Thinking many of you men who are forgetting the spiritual side of medicine in your intense interest in its strictly scientific, professional and economic aspects, let me quote this wonderful tribute from the decorated and framed copy now before me:

"There are men and classes of men that stand above the common herd: the soldier, the sailor, the shepherd not infrequently, the artist rarely, rarelier still the clergyman, the physician almost as a rule. He is the flower of our civilization and when that stage of man is done with, only to be marvelled at in history he will be thought to have shared but little in the defects of the period and to have most notably exhibited the virtues of the race. Generosity he has, such as is possible only to those who practice an art and never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sick room and often enough, though not so often as he desires, brings healing."

Altruism, true philanthropy, ethics above reproach have always been the outstanding characteristics of our profession. We are just wondering if the recent decision by the court that the practice of medicine is "a trade" instead of a profession and art, has not been the result of so many among us being "those who drive a trade." We are

wondering, too, as men become more avaricious and commercial in their dealings with fellowmen, if moral and spiritual values in the profession are declining. Among the elder generation of doctors the academic preparation in education included mental and moral philosophies, and at the very beginning of the professional instruction stern preceptors and professors who had spent and were still spending their lives in active service among a worshipping clientele—as whole time instructors were rare—dinned into our ears the ethics, the nobility, the philanthropic opportunity of the profession we were about to enter. How much of those things—those spiritual and moral values—are taught now?

Let us turn back to a glorious past and command again the unstinted devotion and respect the profession as a whole once had. Uphold its dignity and honor, "be modest, sober, patient, prompt to do our whole duty without anxiety; pious without going so far as superstition, conducting ourselves with propriety in the profession and in all the actions of life." (Hippocrates).

Leave advertising of ourselves to our loving and grateful friends.

Expose dishonesty and corruption as safeguards to our guild.

Be dependent on each other that we may serve ourselves as well as render better service to others.

Guard our remarks and our discussions in the presence of the laity. Reconcile conflicts in opinions; do not expose them.

"Thou shalt not steal" applies to patients as well as property.

Accept no gratuities; nor give them.

Emulate, do not envy, one of superior knowledge.

For the sake of your patients and of professional standards, recognize your limitations. "There never is occasion for insincerity, rivalry or envy and these should never be permitted between consultants."

Above all, seek to merit in humility the occasional praise; and let your character and conduct belie the more frequent criticism.

JOHN W. SIMMONS, M.D.

INFANT DEATH RATE, 1939

The lowest infant death rate in the nation's history was recorded in 1939, according to preliminary tabulations of the Census Bureau, Department of Commerce.

The 1939 infant death rate of 48.0 deaths per one thousand live births is based on 108,532 deaths of infants under one year of age. In 1938 there were 116,702 deaths which resulted in a rate of 51.0. The 1937 rate was 54.4 based on a total of 119,931 deaths. The record-breaking mark of 1939 represents the culmination of two decades of general decrease in infant mortality.

Decreases in the infant mortality rate in 1939, compared with the previous year, were reported by forty-two states and the District of Columbia. The rate rose during the same period in six states. Minnesota's rate of 35.4 was the lowest last year. New Mexico, with a rate of 109.3 and Arizona, 95.5, reported the highest rates last year.

Infant mortality rates of the forty-eight states and the District of Columbia for 1939 and 1938 follow:

State	1939	1938
Alabama	59.6	60.8
Arizona	95.5	93.8
Arkansas	46.1	51.4
California	42.2	43.7
Colorado	54.3	60.2
Connecticut	36.1	36.3
Delaware	40.3	52.8
District of Columbia	47.6	43.1
Florida	56.3	57.9
Georgia	58.5	67.7
Idaho	45.5	44.6
Illinois	37.4	40.9
Indiana	39.3	42.5
Iowa	38.8	40.5
Kansas	39.5	43.0
Kentucky	52.2	61.3
Louisiana	62.4	67.1
Maine	52.3	56.2
Maryland	50.1	55.7
Massachusetts	39.0	39.9
Michigan	41.5	44.6
Minnesota	35.4	38.8
Mississippi	57.2	56.7
Missouri	44.9	51.5
Montana	48.7	45.5
Nebraska	36.5	36.4
Nevada	42.8	47.7
New Hampshire	46.0	47.6
New Jersey	38.4	39.5
New Mexico	109.3	108.7

New York	39.3	40.6
North Carolina	58.3	68.6
North Dakota	48.9	49.8
Ohio	42.7	43.3
Oklahoma	48.2	49.0
Oregon	36.6	39.2
Pennsylvania	45.6	45.9
Rhode Island	39.6	43.8
South Carolina	66.4	80.3
South Dakota	42.6	43.8
Tennessee	54.4	63.5
Texas	65.9	65.1
Utah	39.4	46.8
Vermont	46.3	48.4
Virginia	61.0	66.2
Washington	36.7	38.7
West Virginia	54.5	62.3
Wisconsin	40.1	41.8
Wyoming	43.7	51.8

U. S. BIRTHS, 1939

The United States birth rate dipped slightly last year after rising in 1937 and 1938, according to preliminary tabulations of the Census Bureau, Department of Commerce.

A total of 2,262,726 births occurred last year, resulting in a birth rate of 17.4 births per each 1,000 estimated population. In 1938, the birth rate was 17.6, based on 2,286,962 births. The rate in 1937 was 17.0.

The preliminary 1939 rate is approximately 5 per cent higher than the lowest birth rate recorded in the history of the birth registration area established by the Census Bureau in 1915. The low point was in 1933 when the rate was 16.5. Census officials cautioned that the slight increase reported in recent years cannot be taken as assurance that the gradual decline of the birth rate has been checked.

New Mexico, with a rate of 33.7, had the highest birth rate reported last year. Other states with high birth rates were Arizona, 26.0; Mississippi, 25.6, and Utah, 25.1.

The lowest preliminary rate reported last year was New Jersey where the rate was 13.0. Other states that had low birth rates were Connecticut, 13.5; Massachusetts, 13.6, and New York, 14.4.

Sixteen states and the District of Columbia showed an increase in the birth rate last year over 1938. A decrease during the same period was reported by twenty-seven states, and in five states there was no

change. Greatest increases in the birth rate were reported for the District of Columbia, Delaware, Florida, and South Carolina. Largest decreases were shown in Mississippi, Arkansas, and Illinois.

Birth rates of the 48 states and the District of Columbia for 1939 and 1938 follow:

State	1939	1938
Alabama	21.4	21.4
Arizona	26.0	26.4
Arkansas	17.4	18.2
California	16.8	16.5
Colorado	19.3	19.2
Connecticut	13.5	13.7
Delaware	18.3	17.0
District of Columbia.....	22.4	20.6
Florida	19.4	18.6
Georgia	21.0	21.0
Idaho	22.4	22.9
Illinois	15.0	15.6
Indiana	16.8	17.3
Iowa	17.2	16.9
Kansas	15.6	15.9
Kentucky	20.7	21.2
Louisiana	23.1	22.9
Maine	17.4	17.8
Maryland	16.8	17.3
Massachusetts	13.6	13.8
Michigan	19.6	20.1
Minnesota	18.9	18.9
Mississippi	25.6	26.5
Missouri	14.8	14.7
Montana	20.2	19.8
Nebraska	16.4	16.4
Nevada	19.2	18.7
New Hampshire	15.6	15.4
New Jersey	13.0	12.9
New Mexico	33.7	33.9
New York	14.4	14.6
North Carolina	22.7	22.9
North Dakota	18.6	18.5
Ohio	16.2	16.7
Oklahoma	17.0	17.3
Oregon	16.3	15.8
Pennsylvania	15.8	16.3
Rhode Island	15.3	15.5
South Carolina	22.7	21.9
South Dakota	16.6	17.1
Tennessee	18.4	18.5
Texas	19.6	19.6
Utah	25.1	25.5
Vermont	16.6	16.5
Virginia	19.6	19.3
Washington	16.0	16.1
West Virginia	22.3	22.8
Wisconsin	18.5	18.8
Wyoming	21.4	21.0

There is no basis for the idea that cucumbers and melons should be avoided during pregnancy, according to *The Journal of the American Medical Association*.

THE NEW YORK MEETING OF THE
AMERICAN MEDICAL ASSOCIATION,
JUNE 10-14, 1940

These are soulstirring times in which we live. To be privileged to attend a great meeting sponsored by an organization so close to the lives of the people, and so essential to their welfare, cannot fail to evoke thinking which attempts a reconsideration of the fundamental tenets upon which medicine rests. To be a member of the policy-making branch of the largest and most influential medical association in the world—to represent with my colleagues, Myers and Weaver, the Medical Association of Georgia, set in the deep South where traditions of pure Anglo-Saxon faith prevail—is in these troublous times a responsibility which requires that stewardship in the House of Delegates be characterized by genuine Americanism, and an eye single to the preservation of the principles which have made possible the building of the most efficient medical service in the world.

Under the spell of the kindly benedictions of the New York Session, mellowed by the tragedy that is tearing at the very heart strings of civilization, humbled by the enormity of the task which lies upon the hearts and minds of a profession whose training and experience give human insight beyond that of any other group save that of the clergy, questions were raised in my mind. Paraphrasing a sentiment of the late Dr. Edward G. Jones, President of the Medical Association of Georgia, just prior to our entry into the first World War, I found myself asking that if we “stood then upon the threshold of a future whose oracles were dumb and where opportunity was powerless to wing its flight, beset with obstacles and difficulties as never before,” and that if “to foster moral citizenship and genuine Americanism” was in that momentous period the “peculiar opportunity and duty of the South, a duty which embraced promised distinction and which neglected an equal measure of discredit,” then is not this another epoch when as a nation and as a profession we should again ask ourselves what are the things about which we really care, and what are the things in which we really believe? As a profession

it is this inherent process of self-appraisal, this casting away of the petty differences that at times threaten to divide us, that strips us for effective action.

Stocktaking about things for which we care and a reappraisal of those beliefs which make up the warp and woof of American medicine have been freely and ardently employed during the period of world upheaval through which we have been passing in recent years. None has been so sanguine as to hope that America might be spared the blighting influence of spurious social concepts and strange political ideologies. Isolation, if desirable—and it is not—cannot be our portion. Nor do we shrink from the impact of concepts, social or political, which offer improvement over the American way. We welcome the contribution of statesmen of whatever race or creed who have something to offer that makes possible the further development of freedom of conscience, freedom of initiative, freedom of ordering the direction and goal of the individual life. But we will have none of the philosophy of the overlord in government or in medicine, that glorifies the state at the expense of a robot citizenship. What then has emerged from our well intended experimentation in new methods of practice and in new concepts of government? We must resolve to preserve the fundamental principles of medicine, i. e., freedom in its building, the right of the individual to secure service through channels of his own choosing or to secure no service at all except where such neglect infringes on the rights of others, and the making available equal opportunity to all. By this yardstick we would measure all new proposals for medical care. We are not interested in mass medicine because it promises quantity. We are zealous in our desire to see high quality, and are convinced that only through the extension of the present unregimented system can such a hope be realized. It is the preservation of American medicine characterized by such qualities for which we care.

What are the things in the American way of political life which we as citizens really believe? Certainly our democratic institutions, represented in our form of govern-

ment, must be made real through example and education. Only thus do they become vital parts of the life of all our citizens.

It was in some such atmosphere, poignant with patriotic emotion, that the New York meeting of the House of Delegates gathered. In the corridors was the flower of good fellowship; on the floor no acrimonious or controversial debate. In unity of thought and in response to the overwhelming implications of the hour, two questions challenged interest. The first concerned the registration of the profession in order that its total facilities may be placed at the disposal of our government in furtherance of preparedness. Our Association wrote a brilliant chapter in its voluntary contribution to military achievement in the first World War. Then, as now, we did not falter. While our hopes join that of the well-nigh unanimous voice of America that we may not be forced, through violations of our rightful sphere of influence, to enter the arena of war, there will be universal pride in the fact that by unanimous approval a resolution of the House offered again to the government all the facilities of the Association. To carry out this resolution a survey will be made to ascertain the medical facilities available in the event an emergency arises. To cooperate with the Surgeon General of the Army with particular reference to this selective scheme of medical registration and in any other helpful way the House authorized the appointment of a committee of ten distinguished fellows of the Association residing in various parts of the country. This section will be represented by one of our past presidents, Dr. James E. Paullin. The second matter relates to our code of medical ethics. Sporadic attempts have been made from time to time, through resolutions presented to the House, to obtain authorization for appointment of a committee whose duty would be to consider and revise the *Principles of Medical Ethics*. Such a resolution was introduced in the St. Louis Session of the House (1939) and was referred, on recommendation of the Reference Committee, to the Judicial Council with instructions to report to the 1940 Session. The resolution requested that the *Principles of Medi-*

cal Ethics be re-examined in the interests of continuity, rewording for clarity, the addition of a commentary following each principle to illustrate the intent, *et cetera*. In making its report the Judicial Council stated that "the Council had had a large correspondence with physicians seeking information concerning ethical problems. Many of them evidently had not been trying to be ethical but had been seeking to discover by some means, such as sophisticated reasoning or hair-splitting verbiage, how far from ethical principles they could go and still be considered ethical. Such physicians are trying to fit the *Principles of Medical Ethics* to an action they desire to take rather than to fit their action to the *Principles*."

The Council does not believe that the present wording and arrangement of the *Principles of Medical Ethics* cannot be improved, but it does believe that the present is not the time to do the rewriting. There is at present so much turmoil in medical organization and its relation to government that it seems wise to let the muddled waters settle before any consideration is given to so fundamental a feature of our organization as our *Principles of Medical Ethics*. Meanwhile, anyone seeking information or explanation concerning our present published *Principles of Medical Ethics* can find such an analysis in the American Medical Association's publication by the Bureau of Medical Economics entitled "*Economics and the Ethics of Medicine*."

The report of the Judicial Council was unanimously adopted, thus leaving the code of ethics as it was written in 1903. It must be apparent to all that in a world in which human values are neglected while commercial values are glorified the medical profession, if we are to retain the respect now enjoyed at the hands of a grateful people, must cling with tenacious loyalty to the opening sentences of the *Principles of Medical Ethics*—"A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. In choosing this profession an individual assumes an

(Continued on Page 378)

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

SYPHILIS AS A PUBLIC HEALTH PROGRAM

In April, 1937, an article dealing with the public health aspects of syphilis was published in this JOURNAL. Enormous strides have been made in the treatment of syphilis in the State since that date three years ago. A plea was made for the earnest cooperation of the medical profession at that time. It is only fitting that this article should be started by thanking the physicians for giving their wholehearted cooperation in helping to control syphilis.

A new nomenclature for syphilis has been universally adopted. This classification has been made in order that we can differentiate between the infectious and non-infectious stages of syphilis. This serves as an invaluable aid to the physician in determining the course of treatment.

Early Syphilis or Infectious Syphilis

- (1) All primary lesions.
- (2) Secondary syphilis.
- (3) Latent or asymptomatic syphilis giving a history of a primary lesion which occurred four years or less prior to the time the patient is seen by the physician, or
- (4) Latent or asymptomatic syphilis under 30 years of age.
- (5) Congenital syphilis—under 5 years of age.

Late Syphilis or Non-Infectious Syphilis

- (1) Latent or asymptomatic syphilis giving a history of a primary lesion which occurred more than four years prior to the time the patient is seen by the physician.
- (2) Latent or asymptomatic syphilis over 30 years of age.
- (3) Tertiary syphilis—syphilis of heart, brain, liver, etc.

Late Congenital Syphilis

- (1) Over 5 years of age.

The treatment of the three most important stages of syphilis with which the physician has to deal are to be shown in the following outlines. These have been developed by the clinic cooperative groups of the Johns Hopkins University, the Mayo Clinic, the Western Reserve University, the University of Pennsylvania, and the University of Michigan.

TREATMENT OF EARLY SYPHILIS

No Rest Period

Weeks	1—10	Neoarsphenamine — 0.6 Gm.
	11—20	Bismuth — 1 cc.
	21—30	Neoarsphenamine — 0.6 Gm.
	31—40	Bismuth — 1 cc.
	41—50	Neoarsphenamine — 0.6 Gm.
	51—70	Bismuth — 1 cc.

Give Drugs in Alternate Courses
20 Neoarsphenamine and 20 Bismuth
Renders the Patient Permanently Non-Infectious
At Least One Year of Continuous Treatment Is
Necessary to Obtain a Cure.

OUTLINE OF TREATMENT FOR LATE ASYMPTOMATIC SYPHILIS

1. Complete and thorough physical examination.
2. Weeks 1—7 Neoarsphenamine, 8 weekly doses
8—17 Bismuth, 8-10 weekly doses.
18—25 Neoarsphenamine, 8 weekly doses.
26—37 Bismuth, 12 weekly doses.
38—45 Neoarsphenamine, 8 weekly doses.
53—69 Rest period.
70—81 Bismuth, 12 weekly doses.
82—93 Rest period.
94—105 Bismuth, 12 weekly doses.
3. In patients over 50 years of age, use Bismuth, Mercury and Potassium Iodide. Neoarsphenamine should be used little if at all in these old cases in clinics.

TREATMENT OF PREGNANT WOMAN WITH SYPHILIS

TREAT TO PREVENT SYPHILIS IN BABY
Give Neoarsphenamine EVERY WEEK
Maximum Dosage 0.45 Gm.

Do not give Bismuth unless the woman starts treatment before the fifth month of pregnancy.

The woman with syphilis must be treated during EVERY pregnancy regardless of her serology or the amount of previous treatment she has had.

With such a classification in mind let us consider some of the criteria which form the basis for it. Primary syphilis is the stage of the chancre. During this stage the diagnosis can only be made by means of the darkfield in a large majority of the cases. Many articles have appeared in the literature on the clinical recognition of a chancre. But we have only to remember that the chancre may resemble some 13 genital and extra-genital lesions, in order to realize that there is no sure method of diagnosis excepting by approved laboratory methods. Of course a positive blood is not uncommon in the primary stage, but a negative blood with a genital lesion is not proof that the patient does not have syphilis. Only the examination of the serum from the lesion will settle this problem.

Secondary syphilis is to be suspected, regardless of a history of a primary lesion, when the following clinical manifestations are present: a generalized skin eruption; a sore mouth or sore throat which does not heal in 10 days; any unexplained patchy loss of hair; an iritis or neuroretinitis; or any vague bone pains or polyarticular

arthralgia—"acute, subacute, or chronic infectious arthritis." The serology in this stage is 100 per cent positive when any of these symptoms are syphilitic in origin.

Latent syphilis or asymptomatic syphilis is by definition "hidden syphilis." Latency begins with the healing of early syphilis and may exist in patients for a few months up to a life time. Latent syphilis shows no diagnostic criteria clinically, and may only be recognized by a positive blood test. In less than one-half of all syphilitics found in this manner are we able to elicit any history of a primary chancre. This one factor alone justifies the routine blood test during the course of all physical examinations done in the office or hospital. It is essential that a thorough physical examination be done because such an examination will often disclose the fact that some of these patients have tertiary syphilis.

Late or tertiary syphilis, those cases whose symptoms are cardiovascular, hepatic, brain, etc., in origin presents a very complex picture for the practitioner to deal with. Radical cures cannot be hoped for. Cooperation between syphilologist, internists and practitioners may result in an arrest of the progress of the disease and in the alleviation of symptoms. However, from the standpoint of Public Health, late syphilis is a tragic reminder to us that syphilis, if found early, can be cured and these late manifestations thereby prevented.

Congenital syphilis and syphilis in pregnancy should be discussed briefly at this time. From a public health standpoint, congenital syphilis is a preventable disease. Every pregnant woman should have a blood test early in her pregnancy and every woman with syphilis must be treated during every pregnancy if we can reasonably expect the birth of a syphilis free baby. Congenital syphilis is a dual problem: first, its prevention or "cure" by treating the pregnant woman; second, the congenital syphilitic can be handled by the pediatrician in cooperation with the practitioner. However, congenital syphilis can be best controlled by adequate and early treatment of the pregnant syphilitic woman. Time and space will not permit any adequate discussion of congenital syphilis and since we are discussing syphilis as a public health problem, the keynote is PREVENTION.

What is the extent of our syphilis problem? What is being done at the present time by the physicians in cooperation with the Georgia Department of Public Health? In 1938, there were 28,902 cases of syphilis reported. No attempt will be made in this article to classify these patients. Sixteen thousand, six hundred and eighty-six patients are at the present time (April 1, 1940) under treatment in the syphilis treatment centers. Eighty-two counties have such a service. Most of these centers are being operated in con-

nection with public health programs which are county-wide and which deal with all phases of public health work. Syphilis is one part of a public health program which is available to every county in our State. In addition to this, free drugs are available to every physician in the state to treat his private patients. Laboratory diagnostic service and a consultative service is also available.

Syphilis can be controlled, and will be controlled by early recognition of cases, routine blood tests on pregnant women, adequate treatment, education of the public, and by a continuation of the interest which has been generally shown by physicians.

Summary

1. Early syphilitics are the infectious patients.
2. Continuous treatment will render them non-infectious and prevent the spread of the disease.
3. Diagnosis of primary syphilis is a laboratory and not a clinical procedure.
4. Blood test is 100 per cent positive in secondary syphilis.
5. Prevent congenital syphilis by treatment of the pregnant syphilitic woman.

A. WILSON BROWN, M.D.,

Division of Venereal Disease Control.

THE NEW YORK MEETING OF THE AMERICAN MEDICAL ASSOCIATION. JUNE 10-14, 1940

(Continued from Page 376)

obligation to conduct himself in accord with its ideals."

Time and space do not permit a recital of the many important contributions made by this session of the House to the scientific, social, and economic aspect of medicine. However, the entire proceedings will be published in issues of the *Journal of the American Medical Association* appearing in June and July of 1940 and all are urged to study these illuminating pages carefully. It is more than ever necessary that every member of the Association be informed regarding the policies of medicine if we are to hold against the minority of fifth columnists who have infiltrated our ranks.

At the concluding session Dr. Frank H. Lahey, of Boston, was made President-Elect.

The next meeting will be in Cleveland.
C. W. ROBERTS, M.D.

WOMAN'S AUXILIARY : OFFICERS 1940-1941

President—Mrs. H. G. Banister, Ila.	Recording Secretary—Mrs. Loren Gary, Jr., Shellman.
President-elect—Mrs. Lee Howard, 625 East 44th Street, Savannah.	Treasurer—Mrs. W. Bruce Schaefer, Toccoa.
First Vice-President—Mrs. W. W. Chrisman, 112 Corbin Avenue, Macon.	Corresponding Secretary—Mrs. L. S. Patton, Athens.
Second Vice-President—Mrs. Fred Rawlings, Sandersville.	Parliamentarian—Mrs. J. E. Penland, Waycross.
Third Vice-President—Mrs. D. Lloyd Wood, Dalton.	Historian—Mrs. W. A. Selman, 760 Penn Ave., N. E., Atlanta.
Press and Publicity—Mrs. J. Harry Rogers, 134 Huntington Road, N. W., Atlanta.	

**PRE-CONVENTION MINUTES OF THE
SIXTEENTH ANNUAL SESSION**

APRIL 23, 1940

The executive board meeting was called to order by the president, Mrs. Eustace Allen, and the Lord's Prayer was repeated in concert. The minutes of the post-convention meeting of 1939 and those of the mid-summer meeting of the executive board with the Advisory Committee of the Medical Association of Georgia were read and approved.

The rules governing the election of a nominating committee were read by Mrs. Lehman Williams, parliamentarian. Nominated from the executive board were Mrs. James N. Brawner, Atlanta; Mrs. W. R. Dancy, Savannah; and Mrs. Olin Cofer, Atlanta, and nominated from the membership-at-large were Mrs. R. L. Johnson, Waycross; Mrs. Lon King, Macon; Mrs. J. C. Patterson, Cuthbert; and Mrs. Richard Torpin, Augusta.

Mrs. Allen then appointed the following committees:

Auditing Committee: Mrs. C. L. Ayers, chairman, Toccoa; Mrs. George Fuller, Atlanta; Mrs. C. M. Sharp, Alto.

Courtesy Committee: Mrs. W. A. Selman, Atlanta, chairman; Mrs. Lloyd Wood, Dalton; Mrs. C. S. Pittman, Tifton.

Resolutions Committee: Mrs. Ralston Lattimore, Savannah, chairman; Mrs. Bruce Schaefer, Toccoa; Mrs. Lombard Kelly, Augusta.

Mrs. J. N. Brawner reported that a single cabinet for records and archives having a Yale lock, had been secured. Selections can be added and it will hold scrapbooks and minutes. Mrs. Brawner was accorded thanks of the body.

The body adjourned to attend open house at the home of Dr. and Mrs. Julian Quattlebaum.

MRS. CLEVELAND THOMPSON,
Recording Secretary.

SIXTEENTH ANNUAL CONVENTION*First Session*

The sixteenth annual convention of the Woman's Auxiliary to The Medical Association of Georgia was called to order by the president, Mrs. Eustace Allen, Wednesday morning, April 24, 1940, at the DeSoto Hotel, Savannah.

The invocation by Dr. Henry J. Black, Rector

of St. Paul's Lutheran Church, Savannah.

A delightful expression of welcome was made to the body by Mrs. Lehman Williams, president of Woman's Auxiliary to Georgia Medical Society of Chatham County. Mrs. Enoch Callaway of LaGrange responded.

Mrs. W. R. Dancy of Savannah presented the following distinguished guests:

Mrs. Rollo K. Packard of Chicago, president of Woman's Auxiliary to the American Medical Association; Mrs. Charles P. Corn, Greenville, S. C., president Auxiliary to the Southern Medical Association; Mrs. W. H. Myers, second president of the Auxiliary and wife of the president of the Medical Association of Georgia; Mrs. J. C. Patterson, Cuthbert, wife of president-elect of the Medical Association of Georgia.

Officers of the Auxiliary to the Medical Association of Georgia were then presented by Mrs. Dancy. Mrs. Lee Howard presented these distinguished guests and officers with corsages. Mrs. C. M. McGill presented the Page for the morning, Miss Addine Myers.

Dr. Wm. H. Myers, president of the Medical Association of Georgia, presented a challenging message on "What the Auxiliary Has Done," which was cordially received.

Mrs. Rollo K. Packard gave a timely discussion of "Functions of the Auxiliary," stressing the fact that public relations and health education are the most important responsibilities as an organization.

Mrs. H. M. Kandel gave a report on plans for the entertainment and pleasure of guests.

Mrs. Lehman Williams, parliamentarian, gave rules governing convention procedure.

The president appointed Mrs. Lee Howard and Mrs. William Dancy timekeepers.

The minutes of the second session of the Fifteenth Annual convention were read and approved.

Reports were heard from District Managers as follows: First, Mrs. Sara DeLoach; Second, Mrs. J. A. Redfearn, read by Mrs. J. R. McMichael; Third, Mrs. W. G. Elliott, read by Mrs. Loren Gary, Jr.; Fourth, Mrs. Kenneth Grace; Fifth, Mrs. George Williams, read by Mrs. Olin Cofer; Sixth, Mrs. W. W. Chrisman; Eighth, Mrs. Louis Smith; Ninth, Mrs. C. J. Roper, read by Mrs. Bruce Schaefer; and Tenth,

Mrs. D. N. Thompson, read by Mrs. H. G. Banister.

Reports from the following county presidents were given, Baldwin, Mrs. C. H. Richardson; Bibb, Mrs. J. P. Holmes; Brooks, Mrs. J. R. McMichael; Bulloch-Candler-Evans, Mrs. B. A. Deal, read by Mrs. Waldo Floyd; Burke-Jenkins-Screven, Mrs. L. F. Lanier; Clarke-Oglethorpe-Oconee, Mrs. Weyman Davis, read by Mrs. H. G. Banister; Colquitt, Mrs. W. R. McGinty, read by Mrs. R. M. Joiner; Chatham, Mrs. Lehman Williams; Fulton, Mrs. Forrest M. Barfield; Habersham, Mrs. C. M. Sharp; Randolph-Quitman-Stewart, Mrs. Loren Gary, Jr.; Richmond, Mrs. Lucius Todd; South Georgia, Mrs. F. G. Elridge; Terrell, Mrs. J. T. Arnold; Tift, Mrs. C. A. Fleming, read by Mrs. C. S. Pittman; Troup, Mrs. Kenneth Grace; Washington, Mrs. J. B. Dillard, read by Mrs. W. M. Cason; and Ware, Mrs. Leo Smith, read by Mrs. Raymond Johnson.

Mrs. Lee Howard announced that literature for Auxiliary programs was accessible on exhibit table.

The credentials chairman, Mrs. W. R. Dancy, reported that 150 had registered for the convention.

Adjourned.

MRS. CLEVELAND THOMPSON,
Recording Secretary.

SIXTEENTH ANNUAL CONVENTION *Second Session*

The Second Session of the Sixteenth Annual convention of the Woman's Auxiliary to the Medical Association of Georgia was called to order by the President, Mrs. Eustace Allen, at 9:30 A. M. Thursday, April 25, 1940.

Rev. Ernest Risley, Rector of St. John's Episcopal Church, Savannah, offered the invocation.

A message of welcome was given by Mrs. J. C. Metts, president-elect of the Woman's Auxiliary to the Georgia Medical Society, Chatham County, to which Mrs. W. W. Chrisman of Macon, responded.

Mrs. Charles M. McGill presented the Pages for the day: Misses Sue Howard and Anne Martin.

The minutes of the First Session of the Sixteenth Annual Session were read and ordered filed.

Dr. J. N. Brawner, Chairman of the Advisory Committee to the Woman's Auxiliary, gave a report from this committee. He commended the splendid work done by Mrs. Eustace Allen and her officers.

Dr. J. C. Patterson, president-elect of the Medical Association of Georgia, gave a challenging address on "The Auxiliary as a Liaison Between the Medical Association and Lay Organizations."

Mrs. Charles P. Corn, of Greenville, S. C., president of the Woman's Auxiliary to Southern

Medical Association, gave a timely discussion of "Present Day Opportunities of Service for the Doctor's Wife."

Mrs. W. R. Dancy presented the following distinguished guests, all past presidents:

Mrs. J. N. Brawner, first president of the Auxiliary, Mrs. Ralston Lattimore, Mrs. E. R. Harris, Mrs. Ralph Chaney, and Mrs. W. A. Coleman.

Mrs. Lee Howard was called to the chair while Mrs. Allen made her report of splendid accomplishments. Her slogan: "Service Through Knowledge" was the theme of her report. This was accepted with a rising vote of thanks.

Mrs. Lee Howard was appointed timekeeper.

Mrs. H. G. Banister, president-elect, reported that there were now 632 members of the State Auxiliary, an increase of 83 members. There were 13 auxiliaries organized during the year.

Reports were heard from the following officers: Mrs. Lee Howard, first vice-president; Mrs. C. H. Richardson, second vice-president; Mrs. Loren Gary, Jr., third vice-president; Mrs. Cleveland Thompson, recording secretary; Mrs. J. L. Nevil, historian; Mrs. R. G. Woodbury, treasurer; Mrs. Olin Cofer, corresponding secretary; Mrs. Lehman Williams, parliamentarian; and Mrs. C. L. Ayers, chairman of the Auditing Committee. Mrs. E. R. Harris' motion carried to adopt the officers' reports as read.

Mrs. Lehman Williams, chairman of hospitality, presented members of her committee, Mrs. G. H. Lang and Mrs. S. P. Sanford.

Reports were given by the following chairmen of standing committees: Mrs. Lombard Kelley, legislation; Mrs. J. Harry Rogers, press and publicity; Mrs. Fred Rawlings, health films; Mrs. Bruce Schaefer, Doctor's Day; Mrs. T. J. Ferrell, Jane Todd Crawford; Mrs. H. M. Kandel, exhibits; and Mrs. Loren Gary, Jr., scrapbook; Mrs. J. N. Brawner, revisions. Mrs. W. A. Selman read the beautiful report of Mrs. J. Bonar White, chairman of archives, and on motion of Mrs. Lee Howard it was moved to send a telegram of love and appreciation to Mrs. White for her splendid work on archives.

In making her report, Mrs. Ralph Chaney, chairman of the Student Loan Fund, stated that \$265 had been contributed to the fund during the year by Auxiliaries. She made the following recommendation concerning changes in keeping records, members voted to present this to the Advisory Committee for approval: That the bookkeeping and mailing out of copies be handled by the office of the Secretary-Treasurer of the Medical Association of Georgia.

The memorial chairman, Mrs. J. R. McMichael, conducted a beautiful memorial service for the following members of the Auxiliary, who have passed away during the year: Mrs. B. C. Teasley, of Hartwell; Mrs. W. M. Scott, of Milledgeville; and Mrs. W. V. Chandler, of Baldwin. Mrs.

Ruskin King sang, "There Is a Green Hill Far Away," accompanied by Dwight Bruce, as Mrs. McMichael placed a white rose among the red roses for the departed.

Mrs. J. N. Brawner moved that the recording secretary be empowered to add addendum to minutes concerning the awarding of the Mrs. James N. Brawner Cup each year, so Mrs. Warren Coleman, chairman of the cup committee, deferred her report until the banquet.

Mrs. Brawner reported that she had secured a filing cabinet large enough to accommodate scrapbooks and other valuables of the Auxiliary. The same has a Yale lock and cost only \$8.50.

Mrs. J. N. Brawner moved the reports of the chairman be accepted as read.

Mrs. Walker Curtis, College Park, gave a report of A. M. A. meeting, and Mrs. J. R. S. Mays reported on the Southern Medical Auxiliary Convention in Memphis.

Mrs. Ralston Lattimore, chairman, reported that no resolutions had been submitted.

Mrs. W. A. Selman, chairman of courtesies, read her report.

Mrs. J. N. Brawner moved that flowers and note of love be sent to William Myers, Jr., who is ill. Motion carried.

Chairman of Credentials Committee reported 184 had registered for convention.

Mrs. J. N. Brawner, chairman of Nominating Committee, read the following slate of officers: President—Mrs. H. G. Banister, Ma.

President-elect—Mrs. Lee Howard, Savannah.

First Vice-President—Mrs. W. W. Chrisman, Macon.

Second Vice-President—Mrs. Fred Rawlings, Sandersville.

Third Vice-President—Mrs. Lloyd Wood, Dalton.

Recording Secretary—Mrs. Loren Gary, Jr., Shellman.

Treasurer—Mrs. W. B. Schaefer, Toccoa.

Historian—Mrs. W. A. Selman, Atlanta.

The Recording Secretary was authorized to cast the entire ballot for the nominees. They were installed by Mrs. Eustace Allen, who, with fitting words, turned the gavel over to Mrs. Banister. The new President pledged her best effort in behalf of the organization, and asked the cooperation of its members.

Mrs. Joseph Yampolsky presented to Mrs. Allen the Past Presidents' Pin of Service.

The meeting was then declared adjourned. Mrs. Banister called her executive board to meet for its post-convention meeting immediately following adjournment.

MRS. CLEVELAND THOMPSON,
Recording Secretary.

MRS. ALLEN HONORED

Members of the Woman's Auxiliary to the Medical Association of Georgia will learn with interest of the election of Mrs. Eustace A.

Allen, of Atlanta, immediate past president of the group, to the office of third vice-president of the Woman's Auxiliary to the American Medical Association. Mrs. Allen, who was elected at the recent meeting in New York City, will be chairman of organization for the Southern states.

Those from Georgia attending the convention were Mrs. Allen; Mrs. H. G. Banister, of Ma., president of the Woman's Auxiliary to the Medical Association of Georgia; Mrs. C. W. Roberts, of Atlanta, a past president; Mrs. H. M. Kandel, of Savannah, chairman of the Public Relations Committee; and Mrs. Olin S. Cofer, of Atlanta, president of the Woman's Auxiliary to the Fulton County Medical Society.

GEORGIA PHYSICIANS REGISTERED AT THE NEW YORK CITY SESSION OF THE AMERICAN MEDICAL ASSOCIATION

JUNE 10-14, 1940

Allen, Eustace A., Atlanta.
Baird, J. Mason, Atlanta.
Barnett, Crawford, Atlanta.
Battey, W. W., Augusta.
Benson, Marion T., Jr., Atlanta.
Berman, Dave, Columbus.
Bivings, Frank Lee, Atlanta.
Bivings, Wm. Troy, Jr., Atlanta.
Blackmar, F. B., Columbus.
Boland, Chas. G., Atlanta.
Boland, Frank K., Atlanta.
Brown, Lester A., Atlanta.
Byram, Jas. H., Atlanta.
Calhoun, F. Phinizy, Atlanta.
Camp, R. T., Fairburn.
Clark, Jas. J., Atlanta.
Coker, Grady N., Canton.
Combs, Jas. A., Atlanta.
Daughtry-Denmark, Leila, Atlanta.
Davison, Hal M., Atlanta.
Dillard, Guy, Columbus.
Faggart, Geo. H., Savannah.
Fancher, J. K., Atlanta.
Farber, Marion E., Valdosta.
Fitts, Jno. B., Atlanta.
Foster, Maude E., Atlanta.
Fountain, Jas. A., Macon.
Fowler, A. H., Marietta.
Fowler, Ralph W., Marietta.
Garner, J. R., Atlanta.
Greenblatt, Robert B., Augusta.
Greene, Edgar H., Atlanta.
Hailey, Hugh, Atlanta.
Halpern, Lawrence K., Savannah.
Hilsman, P. L., Albany.
Hodgson, Fred G., Atlanta.
Holmes, Champ H., Atlanta.
Holmes, L. P., Augusta.
Kandel, H. M., Savannah.
Keen, O. F., Macon.
Kelley, D. C., Lawrenceville.
Kiser, William, Jr., Atlanta.

Kracke, Roy R., Emory University.
 Lancaster, E. M., Shady Dale.
 Lennard, O. D., Sandersville.
 Linch, A. O., Atlanta.
 Marsicano, Anthony R., Coolidge.
 McCay, C. G., Atlanta.
 McGinty, A. Park, Atlanta.
 Minor, H. W., Atlanta.
 Murphy, Iva G., Milledgeville.
 Myers, Wm. H., Savannah.
 Newsome, N. J., Sandersville.
 Norris, Jack C., Atlanta.
 Patterson, J. C., Cuthbert.
 Paullin, James E., Atlanta.
 Pittman, O. C., Commerce.
 Powell, Vernon E., Atlanta.
 Pruitt, M. C., Atlanta.
 Roberts, Chas. W., Atlanta.
 Roberts, M. Hines, Atlanta.
 Rudder, Fred F., Atlanta.
 Rushin, Chas. E., Atlanta.
 Sanchez, S. E., Barwick.
 Sanderson, E. S., Augusta.
 Sauls, H. C., Atlanta.
 Scarborough, J. Elliott, Jr., Emory University.
 Schley, Frank B., Columbus.
 Shanks, Edgar D., Atlanta.
 Siegel, Alvin E., Macon.
 Slaughter, R. Frank, Augusta.
 Smisson, Roy C., Fort Valley.
 Smith, Carter, Atlanta.
 Thompson, Jno. B., Columbus.
 Toepel, Theodore, Atlanta.
 Torpin, Richard, Augusta.
 Vinson, Frank, Fort Valley.
 Volpitto, Perry P., Augusta.
 Weaver, Olin H., Macon.
 Wright, Edward S., Atlanta.
 Yampolsky, Joseph, Atlanta.

NEWS ITEMS

DR. GLENVILLE GIDDINGS, Atlanta, and DR. ANDREWS with the State Department of Public Health, Atlanta, were speakers on the program of a meeting of experts in malaria control held at Emory University School of Medicine May 29.

DR. J. R. EVANS, Decatur, was elected president of the Georgia Public Health Association at its meeting held in Atlanta May 26. Officers of the County Commissioners of Health Section are: Dr. H. T. Adkins, Cochran, chairman; Dr. C. F. Engelking, Dalton, vice-chairman; Dr. J. D. Stillwell, McRae, secretary-treasurer.

DR. R. FRANK SLAUGHTER, Augusta, professor of neurosurgery at the University of Georgia School of Medicine, was the principal speaker on the program at a staff meeting of the Macon Hospital, Macon, May 28.

DR. J. COX WALL, Eastman, has been elected to fellowship in the American College of Chest Surgeons. He is a fellow of the American College of Physicians and the Southeastern Surgical Congress.

DR. S. C. LYNN, Savannah, was a speaker on the program of the Savannah Pilot Club May 28. He spoke on *How Tuberculosis Attacks the Tissue of the Human Lung*.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on June 11. Dr. J. G. Sharpley read a paper entitled *Observations on Diverticulitis*; Dr. J. K. Quattlebaum and Dr. J. C. Metts led the discussion. Dr. J. H. Pinholster reported a case, *Liver Abscess*.

THE STAFF OF GRADY HOSPITAL, Atlanta, offered prizes for the best scientific papers submitted by its members. Dr. R. Bruce Logue won the first prize of \$20 on a paper entitled *Dissecting Aneurysm—Report of Nine Cases*. Dr. J. P. McCracken won second prize of \$10 on a paper entitled *Enterorrhagia Complicating Lobar Pneumonia*.

DR. FELIX B. WELTON, formerly of Newnan, has moved to Toccoa and associated in practice with Dr. W. B. Schaefer.

DR. O. L. ROGERS, Sandersville, spoke on *Public Health* before a recent meeting of the Woman's Auxiliary to the Washington County Medical Society at the home of Dr. and Mrs. N. Overby, Sandersville.

IF INTERESTED in a location to practice in either Georgia or Florida, write the Secretary-Treasurer.

THE UNIVERSITY OF GEORGIA SCHOOL OF MEDICINE, Augusta, announces that the entire personnel of its graduating class this year are all Georgians. Names and addresses follow: Julius Hill Bolgla, Richard Franklin Halford and Henry George Stelling, all of Augusta; William Bryn Alsup, Jr., Dublin; Byron Cleveland Beard, Smyrna; Walter Hilbert Bedingfield, Rentz; John Pennington Bond, Toccoa; Albert Wesley Carter, Jr., Atlanta; James Wesley Clower, Grayson; Hubert Wesley Coleman, Savannah; Allen William Coward, Savannah; Henry Bailey Dickens, Jr., Bristol; Asa Daniel Duggan, Sandersville; Jarrell Madison Estes, Gay; Wiley Steward Flanagan, Waycross; Thomas Norman Freeman, Jr., LaGrange; James Howard Hagan, Rockmart; John Emile Hummel, Rome; John Colbert McAfee, Jr., Macon; Marion Winford Mathews, Atlanta; John Buck Morton, Gray; Daniel Everett Nathan, Savannah; Wentworth Lloyd Osteen, Pembroke; Robert Earle Peck, Atlanta; James Solomon Peters, Jr., Manchester; Leander Kennedy Powers, Guyton; Katrine Rawls, Sylvania; William Farrell Reavis, Jr., Waycross; Una Fain Ritch, Jesup; Embra Arthur Roper, Alto; Willie Burt Trammell, Statham; Richard Kinnebrew Winston, Athens.

DR. H. W. LONG, Milledgeville, has been appointed director of the Crippled Children's Division of the State Department of Public Welfare.

DR. G. LOMBARD KELLY, Augusta, dean of the University of Georgia School of Medicine, acknowledges notification of a \$10,000 grant from the Rockefeller Foundation to purchase books and journals for the Library. This grant will supplement the "Moore Fund" given to the school by Mrs. Julia Carter Moore, of Augusta, in memory of her father, Dr. Flournoy Carter.

THE CHATTAHOOCHEE VALLEY MEDICAL ASSOCIATION held its fortieth annual session at the Henry Grady Hotel, Atlanta, July 9, 10, 11. Georgia physicians on the program included: Dr. D. Henry Poer, Atlanta; Dr. T. Sterling Claiborne, Atlanta; Dr. Lester Harbin, Rome; Dr. J. D. Martin, Atlanta; Dr. E. L. Jackson, Emory University; Dr. Daniel C. Elkin, Atlanta; Dr. Mark S. Dougherty, Jr., Atlanta; Dr. Champ Holmes, Atlanta; Dr. Hugh Wood, Atlanta; Dr. James E. Paullin, Atlanta; Dr. E. Van Buren, Atlanta; Dr. Vernon E. Powell, Atlanta; Dr. Albert A. Rayle, Atlanta; Dr. Paul Elkin, Atlanta; Dr. Hillyer Rudisill, Atlanta; Dr. Ben H. Clifton, Atlanta; Dr. Philip H. Nippert, Atlanta; Dr. E. L. Bishop, Atlanta; Dr. Herbert S. Alden, Atlanta; Dr. J. K. Fancher, Atlanta; Dr. J. H. Kite, Atlanta; Dr. Thos. P. Goodwyn, Atlanta; Dr. Wm. G. Hamm, Atlanta; Dr. Martin T. Myers, Atlanta; Dr. J. H. Boland, Atlanta; Dr. E. F. Fincher, Atlanta; Dr. E. A. Bancker, Jr., Atlanta; Dr. Geo. L. Walker, Griffin; Dr. Harry T. Harper, Jr., Augusta; Dr. Crawford F. Barnett, Atlanta; Dr. Frank K. Boland, Jr., Atlanta; Dr. J. Z. McDaniel, Augusta; Dr. Chas. W. Daniels, Atlanta; Dr. R. B. Greenblatt, Augusta; Dr. Fred W. Minnich, Atlanta; Dr. Edgar H. Greene, Atlanta; Dr. T. C. Davison, Atlanta; Dr. Roy R. Kracke, Emory University; Dr. Jack C. Norris, Atlanta; Dr. Jas. J. Clark, Atlanta; Dr. Murdock Euen, Atlanta; Dr. Frank Neuffer, Atlanta; Dr. Russell Burke, Atlanta; Dr. W. B. Armstrong, Atlanta. Other doctors who served as officers and committeemen: Dr. B. T. Beasley, Dr. Frank K. Boland, Dr. C. W. Roberts, Dr. W. A. Selman, Dr. J. L. Pittman, Dr. Jas. J. Clark, all of Atlanta; Dr. A. R. Bush, Hawkinsville, and Dr. V. P. Sydenstricker, Augusta.

DR. ERNEST FELBER announces the opening of his office at 157 Forrest Avenue, N. E., Atlanta. He will practice urology and urologic surgery.

THE BIBB COUNTY MEDICAL SOCIETY met on July 2. Dr. E. H. Prescott and Dr. W. R. Johnson, both of Macon, discussed *Military Medicine*.

DR. G. LOMBARD KELLY, Augusta, dean of the University of Georgia School of Medicine, announced that twenty colored physicians registered at the University June 17 for the post-graduate course offered to the colored physicians of Georgia.

THE FLORIDA MEDICAL ASSOCIATION will hold its next annual convention April 28, 29, 30, 1941.

DR. C. W. ROBERTS, Atlanta, attended the recent semi-annual meeting of the Council on Industrial Health of the American Medical Association in Chicago. He is vice-chairman of the Council.

THE FIRST DISTRICT MEDICAL SOCIETY met at Hotel DeSoto, Savannah, July 17. Dr. P. H. Smith, Savannah, read a paper entitled *Regional Anesthesia*, discussed by Dr. J. H. Pinholster, Savannah; Dr. L. Fielding Lanier, Sylvania, *Coronary Thrombosis with Diabetes*, discussed by Dr. J. Reid Broderick, Savannah; Dr. E. S. Osborne, Savannah, *Psychoanalysis and Medical Psychology*, discussed by Dr. A. J. Mooney, Sr., Statesboro; Dr. Lee Howard, Savannah, *The Practical Importance of Certain*

Drug Blood Levels, discussed by Dr. J. C. Metts, Savannah; Dr. J. C. Patterson, Cuthbert, president of the Association, *Our Program*; Dr. H. T. Compton, Savannah, *The Septic Hip*, discussed by Dr. R. C. Franklin, Swainsboro.

DR. ALLEN H. BUNCE, Atlanta, President-elect of the Association, has been appointed a member of the Committee on Constitution and By-Laws of the United States Pharmacopoeial Convention. The Committee will hold its first meeting in Washington, D. C., during October with the Board of Trustees and the Committee of Revision.

DR. PURCELL ROBERTS, formerly of Atlanta and son of Dr. and Mrs. C. W. Roberts, announces the opening of his office at 5 Bay State Road, Boston, Mass. He served two years as resident physician in the Joseph H. Pratt Diagnostic Hospital, New England Medical Center, Boston, Mass. Dr. Roberts took post-graduate work in medicine at Peter Bent Brigham Hospital under service of Dr. Henry A. Christian; and cardiology at the Rhode Island Hospital, Providence, under Dr. Frank T. Fulton. He will continue on the staff of the Joseph H. Pratt Diagnostic Hospital and instructor in medicine at Tufts College Medical School, Boston. He will serve as medical supervisor of the Health Service, Massachusetts Memorial Hospitals, Boston University School of Medicine.

THE GEORGIA INDUSTRIAL SURGEONS ASSOCIATION will hold its annual program and business meeting in Atlanta at the Ansley Hotel Wednesday, September 25, 1940. At this meeting the Industrial Board in its entirety promises to be present; while representatives of compensation insurance companies, industrial leaders and others interested in workmen's compensation and its administration, will be on the program. Dr. R. E. Newberry, Atlanta, will be in charge of local arrangements. The program is being worked out by President R. L. Rhodes, Augusta; Dr. Newberry, Dr. C. F. Holton, Savannah, and Dr. J. W. Simmons, secretary, Brunswick.

DR. JAMES O. SIMMONS, recently senior intern at Georgia Baptist Hospital, is now located at Woodbine, Ga., in general practice as partner of Dr. Addison K. Swift. They have constructed and opened an office and clinic-hospital building of eight beds and two bassinets to serve a large area of rural population in Camden county.

EXAMINATION FOR APPOINTMENT AS COMMISSIONED OFFICERS IN THE MEDICAL CORPS OF THE U. S. NAVY

The next examination for doctors of medicine desiring to enter the Medical Corps of the United States Navy will be held on August 19, 1940, at the following Naval Medical Department activities:

- U. S. Naval Hospital, Chelsea, Massachusetts.
- U. S. Naval Hospital, Brooklyn, New York.
- Norfolk Naval Hospital, Portsmouth, Virginia.
- U. S. Naval Hospital, Pensacola, Florida.
- U. S. Naval Hospital, San Diego, California.
- Naval Medical Center, Washington, D. C.

U. S. Naval Hospital, Newport, Rhode Island.
 U. S. Naval Hospital, Philadelphia, Pennsylvania.
 U. S. Naval Hospital, Charleston, South Carolina.
 U. S. Naval Hospital, Great Lakes, Illinois.
 U. S. Naval Hospital, Ware Island, California.
 U. S. Naval Hospital, Puget Sound, Bremerton, Washington.

The pay and allowances for Assistant Surgeons with the rank of lieutenant (junior grade) in the Medical Corps of the Navy is \$2,699 per year if the officer has no dependents, and \$3,153 per year if he has dependents.

Additional information regarding physical requirements, etc., may be obtained by addressing a letter to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C. Applications must be completed and received in the Bureau of Medicine and Surgery prior to August 1, 1940, in order that authorization may reach the applicant in sufficient time for him to appear for examination on August 19, 1940.

OBITUARY

Dr. Edward Colfax McCurdy, Shellman; member; Atlanta College of Physicians and Surgeons, Atlanta, 1902; aged 71; died on June 2, 1940. He was born at Villa Rica. Dr. McCurdy was telegraph operator for the Southern Railway for a number of years before he began the study of medicine. He possessed a pleasing disposition and made friends readily. His patients valued his medical care highly and he had an extensive practice. Dr. McCurdy was a member of the Randolph County Medical Society, F. & A. M., and the Methodist church. Surviving him are his widow, one brother, R. G. McCurdy, Shellman; one sister, Mrs. Fannie Taylor, Villa Rica. Rev. G. G. Ramsey officiated at the funeral services conducted at the Methodist church. Burial was in East View cemetery, Shellman.

Dr. Jasper Lee Jackson, Manchester; member; Atlanta College of Physicians and Surgeons, Atlanta, 1902; aged 69; died on June 2, 1940, in a private hospital in Atlanta. He had many warm personal friends and did an extensive practice. Surviving him are one son, Jasper C. Jackson, Augusta; one daughter, Miss Irma Sue Jackson, Manchester. Funeral services were conducted at the residence. Interment was in the Manchester cemetery.

Dr. Boise S. Bomar, Atlanta; Atlanta School of Medicine, Atlanta, 1903; aged 56; died on June 4, 1940, at his residence, 1070 Cascade Road, Atlanta. He was a native of Atlanta. Dr. Bomar had practiced medicine in West End and adjoining community for more than thirty years. Surviving him are his widow, one stepdaughter, Miss Gunnell Lowe; two sisters, Mrs. Ruby Dixon and Mrs. Lillie Cason; two brothers, Guy and John H. Bomar. Rev. Canon Charles Schilling officiated at the funeral services conducted at Spring Hill chapel. Burial was in West View cemetery.

Dr. Buford B. Jones, Metter; member; University of Georgia School of Medicine, Augusta, 1904; aged 66; died June 26, 1940. He was a native of Candler county and lived there during his entire life. After he gradu-

ated in medicine at Augusta, he took post-graduate work in New York City. Dr. Jones served on the Metter Board of Education for twenty years; was mayor of Metter for three terms, past president of the Kiwanis Club, member of F. & A. M., and First Baptist church, where he had served for many years on the Board of Deacons. Surviving him are his widow, one son, Wilhur S. Jones, Dublin; and one daughter, Mrs. John H. Hudson, Jr., Metter. Burial was in the Metter cemetery.

Dr. Robert Campbell Eve, Atlanta; College of Physicians and Surgeons, Baltimore, Maryland, 1892; aged 71; died June 24, 1940. Dr. Eve began his career in the medical corps of the United States Army during the Spanish-American War, served as captain during the World War, then with the United States Public Health Service and the Veterans' Administration Facility until he retired in 1937. Canon Charles F. Schilling officiated at the funeral services conducted at Spring Hill. Burial was in Augusta.

ARTICLES ACCEPTED

To the Editor:

In addition to the articles enumerated in our letter of May 2 the following have been accepted:

McKesson & Robbins, Inc.

McKesson's Ascorbic Acid Tablets, 25 mg.

Shark Industries

Shark Liver Oil.

Sharp & Dohme, Inc.

"Lyovac" Antivenin (Nearctic Crotalidae) Polyvalent. Smith, Kline & French Laboratories

Benzedrine Sulfate Ampoules, 10 mg. 1 cc.

The Upjohn Company

Ampoules Sterile Solution Caffeine with Sodium Benzoate, 0.5 Gm. (7½ grains) 2 cc.

Hypodermic Tablets Caffeine with Sodium Benzoate, 0.065 Gm. (1 grain).

John Wyeth & Brother, Inc.

Thyroid Tablets.

PAUL NICHOLAS LEECH, *Secretary*,
 Council on Pharmacy and Chemistry,
 American Medical Association.

Chicago, Ill.

May 31, 1940.

TRUTH ABOUT MEDICINES NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Ampoules Bismuth Subsalicylate with Chlorobutanol in Oil, 1 cc. Each cubic centimeter contains bismuth subsalicylate—U.S.P. (New and Nonofficial Remedies, 1939, p. 141) 0.13 Gm. (2 grains) and chlorobutanol 0.03 Gm. (0.46 grain), suspended in sweet almond oil. Upjohn Company, Kalamazoo, Mich.

Bismuth Subsalicylate with Chlorobutanol in Oil, 30 cc. Vials.—Each cubic centimeter contains bismuth subsalicylate—U. S. P. (New and Nonofficial Remedies, 1939, p. 141) 0.13 Gm. (2 grains) and chlorobutanol 0.03

Gm. (0.46 grain), suspended in sweet almond oil. Upjohn Company, Kalamazoo, Mich.

Stearns Cod Liver Oil.—It has a vitamin A potency of not less than 850 units (U.S.P.) per gram and a vitamin D potency of not less than 85 units (U.S.P.) per gram (New and Nonofficial Remedies, 1939, p. 506). Frederick Stearns & Company, Detroit.

Tablets Thiamin Chloride—Squibb. 10 mg. Each tablet contains thiamin chloride—Squibb (New and Nonofficial Remedies, 1939, p. 499) 10 mg. E. R. Squibb & Sons, New York. (J.A.M.A., May 11, 1940, p. 1883).

ANNOUNCEMENT OF A STUDY TO EVALUATE ORIGINAL SEROLOGIC TESTS FOR SYPHILIS

More than five years ago the Committee on Evaluation of Serodiagnostic Tests for Syphilis, in cooperation with the United States Public Health Service, conducted a study to evaluate original serologic tests for syphilis or modifications thereof in the United States. The results of this study were published shortly after the investigation was completed.¹

Consideration is now being given by the Committee to the organization of a second evaluation study of original serologic tests for syphilis or modifications thereof within the next year. If the need for an investigation of this kind seems to justify the cost, invitations will be extended to the authors of such serologic tests who reside in the United States, or who may be able to participate by the designation of a serologist who will represent them in this country. The second evaluation study will be conducted utilizing methods comparable to those employed in the first study.²

Serologists who have an original serologic test for syphilis or an original modification thereof and who desire to participate in the second evaluation study should submit their applications not later than October 1, 1940. The applications must be accompanied by a complete description of the technic of the author's serologic test or modification. All correspondence should be directed to the Surgeon General, United States Public Health Service, Washington, D. C.

¹ Ven. Dis. Inform., Washington, June 1935, 16: 189.

J.A.M.A., Chicago, June 8, 1935, 104: 2083.

² J.A.M.A., Chicago, Dec. 1, 1934, 103: 1705.

GRADY HOSPITAL—SCIENTIFIC PAPERS

To stimulate Grady Hospital house officers to write scientific papers about the work done in that hospital, in February two prizes were announced, the first of \$20, the second of \$10. The president of the staff appointed a committee to select the prize-winners.

The committee was disappointed that only two house officers in the colored side submitted papers and not one paper was received from the white side. It wishes to believe that this is only because of the late date at which the prizes were announced. At the same time the committee is very much pleased with the excellence of the papers which were submitted.

The committee awards the first prize to Dr. R. Bruce Logue for "Dissecting Aneurysm, Report of Nine Cases."

This paper has not yet been submitted to a national journal.

The second prize of \$10 is awarded to Dr. J. P. McCracken for "Enterorrhagia Complicating Lobar Pneumonia." The committee is pleased to learn that Dr. McCracken's paper has already been accepted for publication by the Archives of Internal Medicine.

The committee hopes that next year many more men will submit papers, and that most of the papers will be worthy of publication in national journals.

W. S. DOROUGH, M.D., *Chairman*

BERNARD P. WOLFF, M.D.

L. MINOR BLACKFORD, M.D.

ORAL BISMUTH THERAPY

A survey of the most important contributions dealing with economic aspects of syphilis (Am. J. M. Sc., 199:586, 1940) emphasizes the staggering cost of this disease to the individual, the community, and the nation at large. The total cost of syphilis is enormous, even in these days when governments spend millions or billions of dollars daily. Treatment will wholly prevent this unnecessary expense. Untreated syphilis is a luxury for either individual or community.

The minimum number of persons in the United States constantly in need of medical care because of syphilis is estimated as 683,000. Annually, 500,000 cases of early syphilis seek authorized medical care. The probability of acquiring the infection sometime during life is one out of ten.

The usefulness of bismuth intramuscularly as an anti-syphilitic agent has been demonstrated beyond question, and more recently the development of a soluble and clinically useful bismuth preparation suitable for oral administration has been accomplished in Sobisminol Mass, Lilly. It should be administered under the continuous supervision of the physician. Dosage may be controlled with certainty by estimation of the bismuth excretion in the urine, using Bismuth Excretion Test Tablets, Lilly.

THE SOUTHERN SURGEON

Founded in Atlanta and published in Atlanta. There is no *better* surgical journal published. There are larger journals but no better. The cost is only about one-half the cost of others. The medical profession in Atlanta, and Georgia, particularly those interested in general surgery and the different surgical specialties, could well afford to take pride in supporting THE SOUTHERN SURGEON. The editors are trying to do a good job. Encourage us a little, if you appreciate what we are trying to do. Write us a letter, or send us a subscription, or do something to let us feel that you are with us.

Yours very truly,

THE EDITOR.

Wayne County Medical Society

The Wayne County Medical Society announces the following officers for 1940:

President—J. A. Leaphart, Jesup.

Vice President—J. L. Tyre, Screven.

Secretary-Treasurer—Guy V. Rice, Jesup.

PHYSICIANS NEEDED FOR ARMY SERVICE

The physician, like every other American, has become actively interested in our national security and stands ready to contribute his services as required for military preparedness.

The immediate problem in this connection is one that concerns the War Department, and primarily the young physician. The War Department must procure sufficient additional personnel from the medical profession to augment the medical services of the Regular Army as the various increases are made in the strength of the Regular Army, as authorized by Congress to meet the partial emergency. The young physician is especially concerned because it is usually advantageous, and is often more convenient for him to serve with the Army.

Present plans of the War Department are designed to make service attractive and instructive for the young physician. If the physician holds a Medical Corps Reserve commission he can be ordered to active duty if he so requests. If he does not hold a commission, but is under 35 years of age and is a comparatively recent graduate of an accredited school, he may secure an appointment in the Medical Corps Reserve for the purpose of obtaining extended active duty for a period of one year or longer. Duty is given at General Hospitals, Station Hospitals, and with Tactical Units, and embraces all fields of general and specialized medicine and surgery. Excellent post-graduate training is obtainable in connection with Aviation Medicine. After serving 6 months of active duty in the continental United States, a Reserve Officer may request duty in Hawaii, Panama, or other United States territories and possessions. The initial period for duty is for one year and yearly extensions are obtainable thereafter until the international situation becomes more clarified and our domestic military program becomes stabilized.

Many young doctors who have served with the Army on extended active service have taken the competitive examination for entrance into the Medical Corps of the Regular Army. Extended active duty affords an excellent opportunity for the physician to observe military medicine and the facilities that exist for a complete and comprehensive medical practice.

Pay is according to rank, and, including subsistence and quarters allowances for an officer with dependents,

amounts to an annual sum of \$3,905 for a Captain and \$3,152 for a First Lieutenant; or, without dependents, to an annual sum of \$3,450 for a Captain and \$2,696 for a First Lieutenant. In addition, reimbursement is made for travel to duty station and return.

Further information may be obtained by writing to The Surgeon General, U. S. Army, Washington, D. C.

COSMETICS AND PHOTOSENSITIZATION

Two cases of pigmentation of the skin caused by exposure to sunlight after the application of toilet water and lipstick are reported by I. Lewis Sandler, M.D., Washington, D. C., in *The Journal of the American Medical Association* for June 10.

The toilet waters used were believed to contain oil of bergamot, an ingredient in many toilet preparations, which is a definite photosensitizing agent. This means that a surface to which it has been applied is made sensitive to light in much the same way as a film prepared for photography. When exposed to light such a surface becomes pigmented in the same way film does. The dye of the lipstick in question, the author says, probably also contained a photosensitizing agent.

The application of oil of bergamot in alcohol, plus ultraviolet rays, will in many persons produce a skin rash followed by pigmentation. Some authors report the production of pigment in depigmented areas following its use.

Some of the other photosensitizing agents are: oil of lavender, oil of cedar, vanillin oil, mercury bichloride and certain dyes. Pigmentation of the skin may follow their surface application.

Substances such as sulfanilamide, gold, silver and some dyes, when injected into the body, possess the property of sensitizing the skin to light.

Photosensitization in animals has been associated with the eating of buckwheat, clover and sudan grass.

FOR SALE

One practically new Bausch & Lomb Ferree-Rand Projector at a substantial saving. If interested write Box 38, Toombsboro, Ga.

CITY VIEW SANITARIUM

For MENTAL and NERVOUS DISEASES and ADDICTIONS

ESTABLISHED IN 1907

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty-acre tract, and surrounded by a large grove and attractive lawns. Specially trained staff. Reference: The Medical Profession of Nashville.

JOHN W. STEVENS, M. D.
Founder

WILL CAMP, M. D.
Medical Director

MURFREESBORO ROAD

NASHVILLE, TENNESSEE

THE JOURNAL

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Atlanta, Ga., August, 1940

Number 8

CRAWFORD WILLIAMSON LONG

HON. JAMES A. FARLEY
Washington, D. C.

It affords me a great deal of pleasure to visit your distinguished State again. Your gracious hospitality and your heart-warming friendship always make me feel perfectly at home among you. I am sure that such cordiality to the visitor within your gates springs from your love and pride for your State, its history, its traditions, and the famous wonders of benevolent nature. Your beautiful Nacoochee Valley, described so interestingly in Indian folklore, the mountain peaks, not many miles from where I am standing, your majestic Stone Mountain, the largest exposed mass of granite in the world, your internationally-known Springs, with their healing waters, are included in your many endowments of Mother Nature.

In the affairs of the nation, Georgia has always assumed and maintained a commanding position in the Sisterhood of States. I am reminded that you were one of the original thirteen colonies, budding into statehood with an area larger than that of any other state east of the Mississippi River, a veritable empire in itself. Moreover, three of Georgia's citizens were numbered among the signers of the charter of man's freedom, the Declaration of Independence. Indeed, your renowned statesmen and national leaders, in all walks of life, have occupied preeminent places in the building and development of our republic.

It is both significant and fortunate that the humanitarian whose work we are gathered here to commemorate should have come from your own red hills of Georgia.

Address of the Postmaster General of the United States, at the First Day Sale of the Dr. Crawford Williamson Long Commemorative Stamp, Jefferson, Ga., April 8, 1940.

For ever since James Oglethorpe launched at Yamacraw Bluff in the New World a haven for the oppressed of the Old World, the sons of Georgia have carried on that tradition of sympathy and helpfulness for their fellow man.

I am most happy, too, that on the very day when the distinguished lover of nature, John James Audubon, is similarly commemorated in Saint Francisville, Louisiana, that the town of Jefferson and the State of Georgia should acquire this two-cent stamp in the series issued for Famous Americans. It will remain, I am certain, an eminent memento of your State's greatest benefactor of humanity: the first man successfully to use ether anesthesia—Dr. Crawford Williamson Long.

It is a long way back to that spring day of March 30, 1842, when the settlement of Jefferson was but a rural community encircled by extensive plantations of King Cotton, many miles from a railroad. But let us glance briefly at the first surgical operation to be performed painlessly under the kindly influence of ether.

The patient, James Venable, who stated that he had delayed having this operation because he feared the pain, steps into Dr. Long's modest surgery. While a group of students look on curiously, Venable lies down on the couch, Dr. Long, using an ether-soaked towel, puts the patient quietly to sleep. A needle thrust into his arm brings no reaction. Dr. Long then takes his surgeon's knife and proceeds to operate. The wound sewed and bandaged, Long removes the towel and Venable regains consciousness. The only way he can be convinced that an operation has taken place is by showing him the tumor removed from his neck.

Today, this procedure seems commonplace; it is routine. We forget to marvel at man's greatest conquest—his triumph

over pain. Throughout the ages men have tried to free the operating table from the curse of torture. Ancient and medieval peoples alike sought in vain for drugs and for all the "drowsy syrups of the world" to soothe their physical pain. But it remained for Doctor Long, as with a magic wand, to discover the formula and develop the process that was to drive away the shadow of pain and bring surgery into the daylight of modern accomplishment.

Because of this quiet country doctor from Georgia's ruddy hills, the mantle of suffering was removed from the surgeon's knife. And men of all races, creeds, and classes must be forever united in generous gratitude to the discoverer of anesthesia.

Dr. Crawford W. Long was born, as you know, in Danielsville in November, 1815. He studied at Franklin College—now the University of Georgia, where the State motto, "Wisdom, Justice, Moderation," must have impressed itself deeply upon the young man's mind. From the age of five, when Crawford held his sister's almost severed fingers in place until help arrived, a career in medicine was ordained for the boy. "My profession," Long said later, "is to me a ministry from God."

He studied at Ben Franklin's University of Pennsylvania, then the best medical school in the country, and graduated, equipped with unusual surgical skill and judgment. Then came the great decision of his life.

Here was an alert young doctor, well trained, personable, ready to practice his time-hallowed profession. New York, Boston, Philadelphia, were his for the asking. But Crawford W. Long, like that great beloved son of Virginia, Robert E. Lee, decided to go back to the native soil of his home state and to pass his life among his own people. And here he practiced his art, according to the ethics of the physician, "with purity and with holiness."

Returning to Jefferson, the young man took up the duties of a country doctor of the old school. His sensitive fingers and friendly manner soon built a thriving practice, and the hoofs of his old gray horse, Charley, beat out a familiar rhythm in

the lives of his neighbors. Crawford Long was a true Southern gentleman, homey, genial, with a warm circle of friends who played whist and read with him the newest books of Dickens, Longfellow and Washington Irving.

They often watched the traveling lecturers on chemistry demonstrating the hilarious effects of laughing gas on members of their audiences. Or they would go to one of the fashionable "ether parties" which your grandfathers and grandmothers probably used to enjoy.

Long had remarked that members of these parties never seemed to notice the knocks they got while under the influence of the laughing gas or ether. Logically, if either relieved the pain of bruises, perhaps it might relieve other pain as well. The successful experiment with Venable in March, 1842, gave Crawford Long a practical demonstration that his theory was right.

Naturally, the discovery provided Dr. Long with a great sense of exultation—but also a sense of grave responsibility. The experience was against all medical teaching and varied were the opinions of his colleagues. Perhaps not all patients could be put to sleep in this way; perhaps this anesthesia was not due entirely to the ether; perhaps the effects would wear off too quickly to permit a major operation. There were a thousand skeptics. Long had been educated against rendering a premature judgment. So he waited for more opportunities, more patients, before publishing his results.

But Jackson County, 98 years ago, was small and inaccessible. News traveled only by word of mouth. There was no medical society; there was no hospital—there were but a few scattered patients and a major operation was a rarity. So Dr. Long had all too few chances to test his method. He was perfectly candid. There were no secrets about his work. He sought no patent or financial reward. To help his patients was of first importance, and to obtain recognition for his service to the field of medicine was secondary.

Whoever said that "Character is the only

exact measure of anyone's might in the world of action," would have labeled Crawford Long a mighty individual. A faithful physician, Long was also an ideal husband, father, friend, and citizen. He was the personification of Southern good manners: quiet, gracious, modest, with a high reverence for womanhood. Life to him was something mellow—to be enjoyed in one's home or one's garden.

Admired by all women for his charm and striking good looks, and respected everywhere among men, Long never hesitated to assist an old friend. His daughter admitted, "There was nothing of which he was afraid, but he would always dodge a bee." I'm not so sure he always did. Talking, once, with friends, he used the phrase, "an aching void." One bright fellow commented, "Doctor, how can that be? No void can ache." Whereupon the good Doctor calmly replied, "Have you ever had a headache?"

But the evenness of disposition of this man was remarkable. When he finally submitted his claim for recognition, he wrote: "Should the society say that the claim, though well-founded, is forfeited by not being presented earlier, I will cheerfully respond, 'So might it be.'" Such modesty was hardly suited to win his battle. Yet, never in all the years of struggling did his disappointment turn to hatred. Indeed, he hesitated to share his sorrow for fear of making others unhappy. Dr. Long's aim was always to make others well—and happy.

What was the effect, then, of the unfortunate War Between the States on this true physician whose only wish was to benefit his fellow beings? Long at first opposed secession; but when Georgia left the Union, he once more went with his state. Throughout the four years of the conflict, he contributed freely of his medical services, behind the lines as well as on the battle fields. The trials of economic and military warfare, he bore without complaint.

One dramatic incident stands out. When Sherman's advance menaced Long's home, he galloped from the front to remove his

daughter, Frances, out of danger. In a glass jar, he placed all the documentary evidence pertaining to his discovery. Since its loss would certainly end whatever hopes he retained, he admonished her to take the greatest care of the jar during her escape.

"I will die before I surrender it"—the excited girl exclaimed. While Long rode back to the lines Frances hid the precious jar under her numerous petticoats and sped off to safety.

After the war, Long went back to help his people mend the soil of the shattered South and the bodies of its despondent citizens. He had the strength and courage to overcome his poverty and rebuild his practice and his position in the community. Always, he searched for medical truth. He was one of the first physicians to believe that fresh air and diet would help tuberculosis. He was in the forefront of his profession in using quinine, and in treating typhoid. And he died, as he had lived, at the bedside of a patient to whom he had just administered ether.

Certainly, the world was made richer for this man's life. Even had he not been the discoverer of anesthesia, Crawford Williamson Long's intense ambition to do good would stand as a monument to his profession. His unselfish devotion to duty—in the face of successive obstacles and disappointments—throw a welcome spotlight on man's all too often forgotten humanity to man. "The mills of the gods grind slowly, but they grind exceedingly fine" is a familiar quotation. Today, the world acknowledges Dr. Long's benefaction to mankind. Now, through this commemorative stamp his fine face, his distinguished name, and his great contribution to humanity will be known to millions more who will honor and bless him.

"The measure of true greatness," said your Dr. Garnett Quillian of Atlanta, "is determined by what one does, the spirit in which one does it, and its usefulness to the world." Dr. Long's work stands alongside that of Jenner, Lister, and Louis Pasteur. His spirit of faultless humility reminds us, perhaps, of that great Frenchman. Dr. Long's contribution in overcoming the

tyranny of pain is of immeasurable value. Surely, I would not be far wrong in thinking that his service to humanity deserves its own memorial in the far-flung heavens of man's achievement.

This stamp carrying the image of Dr. Long first issued today, is of the two-cent denomination and is red in color. I commend it to you as a well deserved national tribute to one of your best-loved and most famous sons; its color is most appropriate in symbolizing the "red old hills of Georgia" which you have so widely memorialized in song and legend.

In conclusion, may I refer again to the words of Dr. Long, embodying the noblest concept of duty and responsibility in the heart and mind of man—words which are chiseled deeply in the marble base of the Crawford Long statue in the Capitol at Washington for countless thousands to see and consider—"My profession is to me a ministry from God."

DOCTOR CRAWFORD W. LONG
PIONEER IN MEDICAL RESEARCH

WILLIAM H. MYERS, M.D.
Savannah

Ninety-eight years ago in this community occurred one of the world's most important events: the first instance of the administration of ether for the purpose of making a patient insensible to pain during a surgical operation.

We are assembled here today to honor and perpetuate the name of the one who performed that epochal experiment: Dr. Crawford W. Long, the first person in the world to perform a surgical operation under anesthesia, and measured by this gift to humanity, the first in the long list of illustrious Georgians.

Dr. Long's father, a loyal citizen of excellent stock, was so well versed in jurisprudence that his advice was often sought in legal entanglements. His friend and confidant was the renowned William H. Crawford, in whose honor he named his illustrious son. Such antecedents, and the in-

spiration of such a godfather, formed an ample background for the accomplishment of great things.

Long entered Franklin College at a very early age. He was studious and advanced rapidly, graduating with the degree of M.A. at the age of 19, second only to the famous Francis Bartow. His roommate was Alexander H. Stephens, who was also destined to occupy a great place in history. The famed Howell Cobb and Herschel V. Johnson were his schoolmates and associates, but he and Stephens were the most faithful and lasting of friends, and so remained all of their lives. Each saw the other's name imperishably inscribed upon the pages of history, and a grateful and appreciative world has seen their statues appropriately placed in the Statuary Hall in the Nation's Capitol.

In college and medical school Long made friends with many who became famous. His agile and receptive mind was stimulated by teachers in medicine who had few equals in the medical world. Among these were Philip Syng Physick, the father of American surgery and pupil of the great John Hunter; William Gibson, surgeon and pupil of Charles Bell; William Horner, the anatomist; Dunglison, the medical lexicographer; Pancoast, the surgeon; and Gerhard, America's greatest clinician. This galaxy of genius has never been excelled in any faculty, and must have made a lasting impression on the young doctor's fertile mind.

He showed marked ability as a student in the Medical Department of the University of Pennsylvania, from which he graduated in 1839. Immediately after graduation he spent a year in a hospital in New York City, where he distinguished himself in surgery. While "walking the wards" he had the advantage of instruction by Valentine Mott and Willard Parker, both remarkable men in his special field.

After all of this preparation and inspiration received under such auspices, he settled in Jefferson, a village 140 miles from a railroad, where he practiced for 10 years. Such roads as there were in this section were nearly impassable in winter. Savannah, with less than 8,000 inhabitants, was

a long distance away, and it took a week to travel from Jefferson to New York.

Although young, the doctor was noted for his quiet and dignified bearing which endeared him to all, and he soon acquired an extensive and lucrative practice. He was, as were all of the Longs, an ardent Presbyterian, and said: "My profession is to me a ministry from God. I am as much called upon to practice medicine as a minister is to preach the gospel." His office was a favorite meeting place for the young men of the town, who would often pass a happy evening there.

At about this time it became fashionable to inhale laughing gas for its exhilarating effect. Itinerant lecturers in the neighborhood would wind up an evening's entertainment with a nitrous-oxide party, when the participants would get gloriously intoxicated from inhalation of the gas. These practices spread throughout the surrounding country, and at Jefferson during the early part of the winter of 1841, the young friends of Dr. Long urged him to let them indulge in this rare experience. He replied that he had no method of preparing the laughing gas, but that sulphuric ether would produce similar exhilaration. As they were keen for the experience, the ether was procured and administered, whereupon all became duly hilarious. The young men were delighted with Dr. Long's wonderful drug. Thereafter, inhalation of ether for sport became very popular in this section of the State, and almost every party ended with an "ether frolic," as it was called.

During January, 1842, these "frolics" were very frequent at Dr. Long's office, and some of the participants must have become well intoxicated, for the doctor himself said that he and others found considerable bruises about their bodies of which they had no previous knowledge. This led him to believe that ether must have the power of rendering one insensible to pain and was therefore available for preventing pain in surgical operations. He at once determined to prove this theory on his next surgical case.

That opportunity soon came, and on March 30, 1842, he administered ether to Mr. James M. Venable and excised a small

tumor from the back of his neck. We may well imagine the patient's surprise when he regained consciousness and found that the operation was completed and that he had felt no scratch or pain. Thus occurred the greatest advance that had been made in surgery in all history.

After Dr. Long operated on Mr. Venable he continued to use ether for anesthesia upon his surgical cases, but he had only minor cases, such as small superficial tumors, the amputation of a toe, and an injured hand. He hoped to have some cases of major surgery in order to make a more convincing report than he would have with only the minor ones. He feared that he would be accused of using mesmerism, which was popular at the time, and under the influence of which many minor and some major operations were done.

Even if he had been prepared to report his results, it would have been difficult for him, a recent graduate, to break into medical print. There were probably but three or four county medical societies in the State, and there was no state association. Having been educated in Philadelphia, so far away, he could not reach any avenue of communication by which to report his experiments, which antedated Morton's by four and one-half years.

In 1849 the Medical Association of Georgia was founded and the original paper in which Dr. Long fully described his operation and anesthesia was published by it in 1852. This publication and the insistence of Long's friends that he was entitled to the credit and honor of making the discovery intensified the controversy, for now with Wells and Jackson in addition, there were four contenders. Long's enemies said that he attempted to keep his discovery a secret, but this was not true, for he freely imparted all information to anyone who sought it.

Morton had strong political backing which succeeded in passing a measure through Congress providing for the payment of \$100,000 to the discoverer of anesthesia. The debate was long and acrimonious, and the confusion was so great that no decision was made as to whom the money should be paid. The fight continued for many years and as a result, Wells com-

mitted suicide, Jackson became insane, and Morton died a disheartened and disappointed man.

Dr. Long was too modest and self-effacing to push his claim. His life had been filled with disappointments, but in 1877, Dr. J. Marion Sims, one of the world's greatest surgeons and mankind's greatest benefactors, heard of Dr. Long's claims and made an investigation. He vigorously espoused Long's cause and demanded that the medical profession recognize him on his merits. So great was Sims' influence that the doctor's life suddenly became brighter, and distinguished medical men in all parts of the world hastened to give him credit which had so long been withheld.

He was not long to enjoy the belated honors, however, for within a few months he was stricken at the bedside of a patient and died the following day, June 16, 1878, in "harness", as was his wish.

When Dr. Long demonstrated the power of ether to make surgery painless, he opened a new field of science. This was the first step of the three factors that constitute the basis for the marvels of modern surgery. Pasteur's discovery that disease and infection were caused by bacteria was the second step, and Lord Lister's discovery that antisepsis and asepsis made surgery safe was the third step.

We are here today to dedicate an issue of stamps to the memory of this pioneer in medical research. These stamps bear the likeness of this great man and are additional evidence of the gratitude of a people and a nation for this illustrious Georgian, who, in the appropriate words of the late Dr. J. C. Da Costa: "was an honor to his alma mater, an ornament to his profession, a glory to his country, and a benefactor to the human race."

POTASSIUM SALTS AND HAY FEVER

Potassium salts have no practical value in the treatment of hay fever and seasonal asthma. Simon S. Rubin, M.D., Abe L. Oaronson, M.D., Morris A. Kaplan, M.D., and Samuel M. Feinberg, M.D., Chicago, report in *The Journal of the American Medical Association* for June 15. Their conclusions are based on studies of results of such treatment in 153 victims of hay fever and asthma. The symptoms of a few of their patients, the authors state, were made worse by the salts.

MEDICAL HORIZONS

JULIAN K. QUATTLEBAUM, M.D.
Savannah

This is a day of remembrance. We have assembled to do honor to the memory of one of Georgia's noblest sons, an alumnus of this University, a great and good man. Ninety-eight years ago today Crawford W. Long administered the first ether anesthetic for the purpose of performing a surgical operation. We commemorate that event as one of the greatest contributions ever made to suffering humanity. This great achievement earned for him the love and eternal gratitude of all mankind. Medical history records that the never-despairing hope of physicians was to conquer pain and to deliver surgery from the horrors of uncontrolled suffering that made every operation a mad dash against agony and death. For centuries medical men had sought to dull the consciousness of pain by every variety of means and without success. Crawford Long lifted the veil which hung before this mystery and surgery, freed from its greatest horror, bounded forth into the pure light of science where advancement is continuous and the conquest of disease is never ended.

If this University had produced no other alumnus to reflect glory upon it, Crawford W. Long's accomplishment would make the State owe this institution an adequate endowment. Not only for his great discovery of ether anesthesia but for the sterling example of character his life illustrated. For nearly thirty years he was active in the practice of medicine. The greater part of that time here in Athens. His patients were his devoted admirers and friends whose welfare he always placed above his own. He was a religious man who lived and practiced his religion. Denied honors which were justly his, he concealed his disappointment by hard work. He carried through life no ignoble rancor and never scoffed at destiny nor denounced fate. He never attempted to exploit his discovery but calmly went about his daily tasks of caring for the sick and

Crawford W. Long Day Address, University of Georgia, Athens, March 30, 1940.

needy, never brooding, kindly and generous to all, courteous and friendly, inspiring confidence and trust by his own self-assurance and strength. Sympathetic with those who suffered and with great reverence for womanhood, his practice included the poorest and lowliest as well as the rich and well-to-do. An owner of slaves, he reared them as a great and heavy responsibility and after they were freed he continued to watch over their welfare and care for them as best he could.

As a doctor, Long was in advance of his day. He deliberately chose the rigors and hardships of a country practice in preference to life in a great city. He treated many diseases practically as we do now and as a surgeon used rare judgment and skill with unusual success. Like everyone else he lost everything in the War Between the States, but he met adversity with the courage befitting a man, and by hard work and devotion to duty eventually recouped his fortunes.

When death came it found him ushering a new life into the world. Stricken with a cerebral hemorrhage, he resisted for a moment the shroud of unconsciousness, and realizing that his own life was rapidly ebbing urged that the mother and child be cared for first. Thus died Crawford W. Long. In death as in life his greatest concern was for those who placed themselves in his care. He was faithful to duty to the end.

We are living in the golden age of medical achievement. New drugs, remarkable remedies and astounding surgical accomplishments are reported every day. The span of life has been increased threefold and in the years that have been added countless days of misery and suffering have been eliminated. Great scourges which formerly harassed the nations and filled man's soul with terror have been conquered. Modern sanitation, hygiene and public health have been introduced. The victories won in the battle against diseases arouses the admiration of all and the value of the benefits thus obtained is beyond estimation. The past fifty years of medicine have witnessed more marvelous achievements than all the preceding centuries. This advancement, how-

ever, is in no sense a special compliment to our generation, for it was the slow and painful accumulation of knowledge concerning the structure and function of the human body that made this recent progress possible. Centuries of effort were required to develop the ancillary sciences of anatomy, physiology, pathology and bacteriology. It is not appropriate, however, to trace in detail the development of modern medicine, nor to mention the many great figures who made monumental contributions to early medical science.

The introduction of anesthesia, in 1842, not only completely changed the possibilities of surgery but set the stage for one of the greatest discoveries of all time. Joseph Lister recognized that the investigations of many observers ending with Pasteur, which showed that putrefactive processes depended upon minute organisms, were also applicable in surgical work. Lister worked out the principle of "antisepsis" upon which modern aseptic surgery was developed. Every country in the world is now carrying on the work made possible by the application of this discovery. It has been said that Joseph Lister was the greatest material benefactor of mankind the world has ever known. Long banished pain and terror from the surgeon's wound. Lister made surgery safe by removing the horror and devastation of infection. The work of Crawford W. Long and Joseph Lister completed the foundation upon which modern surgery is practiced, and has been instrumental in saving more lives than all the wars of all the ages have taken away. Great as the past has been the story of medicine's most recent achievements enthralls the imagination and fills one's soul with wonder. We can but briefly review some of the more outstanding accomplishments of present day medicine.

The development of bacteriology into its present commanding status made possible the control of epidemics and has given us specific causes of a long list of diseases and made possible immunization against many of the most destructive of them. For example, such a scourge as typhoid fever has become almost unknown. In the Boer War

typhoid fever destroyed 8,000 British soldiers while only 7,000 were killed in battle. In the last World War as a result of antityphoid vaccine which was given to each of 4,000,000 American soldiers, and increasing knowledge of sanitation, only 1,083 cases of typhoid fever occurred, with only 148 deaths. Sir William Osler once said that he could teach medicine successfully on typhoid fever patients alone; however, he could hardly do so today, since some of our largest hospitals and best medical schools have no such patients, indicating the striking changes which have taken place in the incidence of certain diseases.

Most dramatic among medical victories is the conquest against yellow fever. One epidemic of this in 1793 took the lives of 10,000 people in Philadelphia in three months. Its toll prevented France from building the Panama Canal across a zone which for four centuries was called the "white man's grave." In the opening year of the twentieth century through the peace time bravery of American soldiers who volunteered for the fateful experiments, it was proved that a mosquito transmits yellow fever. In eradicating this great scourge the "name of Jesse W. Lazear was graven upon the portals of immortality." He sacrificed his own life to save his fellow man.

During the present century, many diseases of the heart, kidneys, gallbladder, stomach and other organs have been shown to be derived frequently from foci of infection around the teeth, in the tonsils, in the sinuses, and elsewhere. This great discovery has enabled the physician to employ in many instances the most effective of all treatment, the removal of the cause.

The study of the causes of infectious diseases made possible the specific treatment for diphtheria, tetanus, meningitis, scarlet fever, erysipelas, syphilis, pneumonia, malarial fever and other ailments, and has enabled physicians to prevent as well as cure many others. The discovery of the germ of tuberculosis was the beginning of the control of the "Great White Plague" and this victory was more important for mankind than that which resulted from the "Fifteen Decisive Battles

of the World." Although still a problem of considerable social importance, it is probable that before the present decade has passed we will see the elimination of tuberculosis as an important cause of death. The introduction of the complex dyes in the treatment of infections will no doubt result in a specific chemical that will eradicate one of mankind's most stubborn enemies. Indeed the end of all infectious diseases is seen by some authorities, through the use of the miraculous drugs sulfanilamide and sulfapyridine, and allied compounds yet to be developed. These so-called sulfa-twins have been available only three years. The use of these drugs has succeeded in curing persons with streptococcal and staphylococcal infections and other forms of blood poisoning which were formerly considered fatal. Types of meningitis which used to bring death 99 times out of a hundred are now cured two times out of three with the use of one of the sulfa-twins. The mortality rate of pneumonia had been uninfluenced by treatment from the time of Hippocrates until most recently. At the Johns Hopkins Hospital the death rate approached 20 per cent. Since sulfapyridine has been used at Hopkins the percentage of deaths has dropped to 7. One writer has reported the records of 3,000 cases of pneumonia treated with sulfapyridine with a death rate of only 5.4 per cent. The miraculous manner in which desperately ill patients are cured in just a few hours constitutes one of the most remarkable therapeutic achievements of all time. Similar results have been obtained in other types of infectious disease. Yet these new drugs do not provide a final solution of all medical problems. There is still much to be learned about them, new allied compounds will be developed, and their effects upon patients will be better understood.

The discovery of radium by Madame Curie at the very end of the nineteenth century was not only a triumph in wresting a secret from the physical world but has provided a most powerful weapon for the treatment of certain forms of cancer. Roentgen's discovery of the x-ray with the amazing development of its application, together

with the aid of the fluoroscope have made the skin as transparent as cellophane and enormously increased the range and accuracy of diagnosis. Moss, a native of Athens, and an alumnus of this university, found that human blood was of four types and thus made available one of the greatest of therapeutic measures, the safe transfusion of blood into the veins of those bled white by sickness or injury.

For many years individuals were observed who developed slowly and insidiously, a lemon yellow color of the skin, great weakness, obscure digestive disturbances, and often varying degrees of paralysis of the limbs. Profound anemia was always present as the result of the patient's inability to form blood. Treatment was universally unsuccessful and a fatal termination was inevitable. In 1926 Minot and Murphy discovered that the daily ingestion of large amounts of liver was an effective remedy. Extracts of liver for oral and hypodermic administration were promptly developed, and now pernicious anemia is not only curable, but has ceased to be an important health problem.

One of the outstanding contributions of all time was announced by Dr. F. R. Banting of the University of Toronto in 1922. This preparation of an extract of the pancreas of animals, administered hypodermically, makes possible the eating of practically a normal diet by persons suffering with diabetes. This substance, called insulin, has been the means of saving and prolonging thousands of lives and has made effective the treatment of this most serious disease.

The study of the glands of internal secretion provides a brilliant new movement in medicine. For many years this field has been a playground for quacks. It was formerly held that endocrinology was 85 per cent hokum, 10 per cent theory and 5 per cent fact. Knowledge of this subject is growing at an amazing pace, and we have found that all of us are dependent upon the minute quantities of the products secreted by these glands. The pituitary gland for example, at the base of the brain and no larger than the last joint of your smallest finger, is known to control growth, shape and fea-

tures, water excretion and sugar utilization. The known functions of the thyroid gland, adrenals and the other endocrines are no less vital.

In 1912 investigators confirmed the work of earlier writers and postulated vitamin deficiencies as a cause of disease and opened the door to the understanding of some of man's oldest diseases, for example: scurvy, beri beri and rickets. Increasing knowledge of vitamins and their role in health has made such progress that today known deficiency diseases are controlled easily and effectively. The possibilities in this field are enormous; already six different forms of vitamin B alone have been isolated.

New mechanical and electric devices for both diagnosis and treatment are assuming more and more importance. The electrocardiograph unfailingly classifies abnormal heart symptoms and records the condition of the heart muscle and its blood vessels. The bronchoscope, esophagoscope and gastroscope are instruments with which the interior of the lungs, bronchi, esophagus and stomach can be visualized, and with their use innumerable objects have been removed from the lungs and bronchi which would certainly have caused the death of many. The creation and use of these devices is one of the really great advances of modern medicine. The automatic respirator or iron lung, enables one to live by propelling air into and from the lungs when this function has been destroyed by the dread disease of infantile paralysis.

In the realm of surgery the advances have been no less spectacular. The period following Lister's contribution making surgery safe for the patient, has been one in which the patient has been made safe for surgery. No longer are operations done with lightning speed and a magician's dexterity. The great mutilating procedures are disappearing. Precise, bloodless, gentle, aiming always to aid or restore function, modern surgery is indeed the "Queen of the Arts." The experience gained in the great war gave impetus to corrective and restorative surgery and brought advances in the control of wound infections. The development of electro-surgical units by which

tissue can be cut and seared so as to prevent bleeding has made possible the removal of intracranial tumors that were formerly hopeless. The tumors are scooped out from the inside until the surrounding capsule collapses and can then be removed through a small opening. Until quite recently cancer of the lung was considered to be of infrequent occurrence. It is now known that not only is cancer of the lung relatively frequent, but is amenable to surgical removal. The entire lung can be removed and this has been successfully accomplished in many instances. The heart is only 2 inches from the surface, yet it took two thousand years for the surgeon's knife to travel that distance. Goethe said figuratively "a wounded heart can, with difficulty, be cured." Yet Dr. Dan Elkin of Atlanta has sutured thirty-four cases of stab wounds of the heart with nineteen recoveries. Dr. Alfred Blalock, Professor of Surgery at Vanderbilt, who graduated from this University in 1918, has gained world-wide fame and recognition by his brilliant work on constrictive pericarditis, a condition in which the sac surrounding the heart becomes chronically thickened, binding the heart as if in a cuirass and producing widespread circulatory disturbances with great disability. The excision of this constricting membrane restores the individual to normal. The surgical treatment of heart pain, particularly those cases in which the pain is attributable to a deficient blood supply to the heart itself is rapidly leaving the experimental stage.

Raynaud's disease, a condition similar to frost-bite in its manifestations, and attributable to the spasmodic contractions of the blood vessels of the fingers or toes is being treated by the surgical divisions of the sympathetic nerves supplying these vessels. In favorable cases, fingers approaching a state of gangrene are restored to normal color and temperature before the operative wound is closed. Similar attempts for the relief of the fatal forms of high blood pressure in young individuals are being undertaken with hopeful results.

It can be said of present day medicine that any form of therapy will be used if

it can be proved that it is of value. During the past few years every conceivable type of stimulant, excitant or depressant, has been applied, from the nurturing of maggots in wounds to the use of psychotherapy in infants. Among the unusual is the use of fever for the treatment of certain diseases. We know that some bacteria are incapable of surviving in an environment that is still viable for the human. The organism of syphilis is one of them. With this in mind the malarial therapy of paresis or syphilitic softening of the brain was devised. Patients suffering with this condition are inoculated with malarial parasites. The high fevers of malaria destroy the germs of syphilis. The malarial fever thus induced is later cured with appropriate treatment. It is remarkable how individuals whose mental processes appear forever to have left the normal, are returned to a rational condition with this most unusual treatment. Artificial fever produced by an electrical device, called the "hypertherm" is being used effectively in the treatment of other conditions. Recently attempts have been made to cure cancer by lowering the temperature of the body. This so-called freezing treatment hopes to destroy the immature cancer cells whose resistance to very low temperature is less than that of the cells of normal tissues. Some promise is held for this effort when used in conjunction with x-ray therapy.

And so our learning advances, little by little; and thus we add to the never to be finished structure of the Temple of Medicine. We marvel at the progress being made for the protection of man against his environmental enemies. However, as we eliminate one cause of death after another, it is inevitable that we only add to the death rate from the causes that remain. Increase the span of life as we may—yet we must all die of something and the certainty of death will never be removed. Lest we be vainglorious let us remember that the time lost by illness each year averages ten days for each man, woman and child. If it were possible by nation-wide effort to reduce the amount of sickness by 25 per cent, the total economic gain yearly would be around a

quarter of a billion dollars, while the worth in anguish relieved and death postponed is beyond estimation.

For you who expect to take up the mantle of the profession, fear not that opportunities for great accomplishment no longer exist. One of the most urgent problems awaiting solution is related to the cause, prevention and treatment of the so-called essential vascular hypertension, a destructive type of high blood pressure in young individuals. The fundamental pathogenesis is still a mystery and consequently treatment leaves much to be desired. More sudden in its devastation and apparently ever on the increase is the disease of coronary thrombosis. Most often affecting those in the very prime of life, it strikes without warning and in many instances the fatal attack may have been preceded by a thorough examination which disclosed no evidence of heart disease. If success could be attained in this field, the average duration of life would be increased by almost a decade.

Increasingly important is the problem of mental disease. Forty-seven per cent of all the hospital beds in the United States are occupied by those so afflicted at a cost of \$150,000,000 a year. The number of mental cases hospitalized increased forty per cent from 1926 to 1936. Of the 2,200,000 children born each year some 120,000 will be some day committed to a hospital for mental disease. As time goes on the number committed for the first time becomes larger and larger. Here is a real stimulus to scientific research. The problem is social as well as scientific and is worthy of the best minds that can be devoted to it.

No greater field of endeavor for human benefit has ever existed than that of chronic arthritis. Over 2,000,000 individuals in the United States are disabled as the result of this painful and discouraging disease. Deprived of the privilege of an early death, these unfortunates usually live for many years, deformed, miserable and helpless, the victims of what apparently is the "Devil's own disease." He who makes a real contribution here, will certainly leave his name deeply engraved on the roll of the immortals.

What is more tragic than the individual normal in every respect, so far as can be determined by the most scientific investigation, yet who at any time may be attacked by convulsive seizures which make it impossible to ever enjoy the full life of those who are not the victims of what is called epilepsy. Here is a task that should intrigue the mind of every young person who contemplates a life devoted to science. What greater joy could one desire than to be able to draw the curtain from this mystery!

Less distressing but claiming infinitely more victims is that great group of what is called allergic diseases, of which asthma and hay fever are examples. Known since the beginning of time, there is hardly a family which does not have a member who suffers with asthma. The ineffectiveness of treatment is attested to by the innumerable remedies which are and have been tried by the host of victims. Perhaps the further development of the surgery of the sympathetic nervous system may provide the ultimate solution.

And what of the common cold? Sixty per cent of the people have two or three colds every year. We know the causative agent is a filterable virus and the other organisms found in the nose and throat play a part in the complications that often develop. Climate may or may not have something to do with it but changes in the weather certainly do. We know also that the enormous amount of research done on this subject has resulted only in the knowledge that if given early, opium, in some form, preferably codeine, will usually bring about improvement. And that is all we do know about this most common of all man's ailments.

The modern plague of poliomyelitis, or infantile paralysis, descends upon some section of this country year after year, leaving its victims broken and crippled, and with no suggestion as to whom or where it will strike next. Although an enormous amount of time, effort and money has been devoted to the eradication of this scourge, practically nothing has been accomplished. Yet eventually its mysteries will be revealed by the light of science and one of man's most baffling foes will be eliminated.

And then the most relentless of all man's enemies — cancer. One wonders if any progress is actually being made in the understanding and control of this disease. The enormous increase in the death rate from cancer is inseparably related to excellent public health. Preventive medicine has created a larger population to grow old, and having grown old they are kept from dying of those ills from which they formerly suffered and a larger proportion dies of cancer. Cancer and all its manifestations constitutes the greatest problem of scientific medicine. The world has never acclaimed the man as it will that one who solves this mystery, and yet the mysterious is often simple when exhibited in the light of knowledge. For who could have guessed that the cold flint rock contained within its stony hardness the origin of fire? The immortals of all time will include no greater figure than he who shall bring about the control of cancer.

What of old age itself? The increase in expectation of life since 1900 is equal to the increase in the previous 100 years. As the march of science continues we can only conjecture about ultimate longevity. However, with increasing knowledge of the chemistry of the body and the causes of degenerative changes in the vital organs; with a wider understanding of the secretions of the ductless glands; more knowledge concerning the part diets and vitamins play in health and disease; with more and more attention being given to preventive medicine, public health measures, and periodic examinations resulting in the eradication of many ailments before they have made serious inroads on health it is well within the realm of probability that before this century is out the Biblical estimation of old age at three score and ten will be increased at least to four score plus ten or more; and that organically the average man of eighty will be comparable to the man of sixty of today. This will inevitably bring about many social and economic changes in the future.

The march of science is making a complete transformation of the environment in which we live. It is compelling a reorientation of our thought processes especially

in connection with human conduct. Individually and en masse we lack anchorage and this has given us a sense of insecurity. The doctor of the future must be trained to understand all phases of the life of human beings, their problems in relation to groups and individuals. The understanding of personality is as vital as a knowledge of the various systems of the body. There will always be a place for sound medicine and a sound doctor not only to guide the individual in the care of his body in the protection from disease and to assist in public health measures, but also to play a leading role in the broad understanding of human relations. Medical education also faces the necessity of giving the doctor of the future knowledge of the forces that lead to change. It must train for leadership in the field of medicine as related to economic life where the doctor's help is vital in solving the problem. To select the scientific and social subjects that should be the basis of a medical education is indeed difficult. Once selected these subjects should not be allowed to become fixed but must be kept alive and modified or changed to keep pace with medical progress. It is the function of our great institutions of learning to keep the student and the doctor abreast of the times and up to date in knowledge and techniques.

To you who will so soon embark upon the adventurous sea of life, let me give the "master-word" of success. Many years ago the great Sir William Osler in one of his incomparable essays, spoke as follows: "I propose to tell you the secret of life as I have seen the game played—You remember in one of the jungle stories when Mowgli wished to be avenged on the villagers he could only get the help of Hathi and his sons by sending them the master-word. This I propose to give you in the hope—that some of you at least will lay hold upon it to your profit. Though a little one, the master-word looms large in meaning. It is the open sesame to every portal, the great equalizer in the world.—The stupid man among you it will make bright, the bright man brilliant and the brilliant student steady. With the magic word in your heart all things are possible, and without it all

study is vanity and vexation.—To the youth it brings hope, to the middle-aged confidence, to the aged repose.—It is directly responsible for all advances in medicine during the past twenty-five centuries.—Not only has it been the touchstone of progress, but it is the measure of success in everyday life.—And the master-word is W O R K, a little one, as I have said, but fraught with momentous sequences if you can but write it on your hearts and bind it upon your foreheads." "Work"—it is the very incarnation of him, in whose honor we have met today.

As we look backward upon the long history of the science and art of medicine, a great procession of famous and heroic figures pass in review. Each one stands not only as a witness of his own contribution and achievement, but also as a symbol of the traditions, the ideals and aims of the age which he adorns. They have lost their nationality in death for they labored and sacrificed for the welfare of all mankind, but their deeds will not be forgotten and their names will live forever. Among such men, few in number, supreme in achievement, Crawford W. Long is worthy to take his place. In honoring his memory we honor ourselves. He was an ornament to his profession, an honor to his school and state and a benefactor of the human race.

In the preparation of this address I have borrowed ideas and quoted freely from many sources, especially the following:

1. "Crawford W. Long" by John Chalmers Da Costa (Papers and Speeches of John Chalmers Da Costa, Philadelphia, W. B. Saunders Co., 1931).
2. "Surgery, The Queen of the Arts" and "The Romance of Medicine," by Wm. D. Haggard (Surgery, Queen of the Arts and other Papers and Addresses, Philadelphia, W. B. Saunders Co., 1935).
3. "The Murphy Memorial Oration," Sir Berkeley Moynihan (Essays on Surgical Subjects, Philadelphia, W. B. Saunders Co., 1921).
4. "Aequanimitas" and "The Master-Word in Medicine," by Sir Wm. Osler (Aequanimitas and Other Addresses, Philadelphia, P. Blakiston's Son & Co., 1922).
5. "The March of Medicine" by Ray Lyman Wilbur (Vital Speeches, Jan. 1, 1938, p. 175).
6. "C. W. Long and Ether Anesthesia," by Frances Long Taylor (New York, Paul B. Hoeber, Inc., 1928).
7. "Crawford W. Long, The Discoverer of Anesthesia," by Dr. Frank K. Boland (South. M. J., Nov. 1922).
8. "The History of Medicine," by F. H. Garrison (Philadelphia, W. B. Saunders Co., 1924).

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

SALYRGAN-THEOPHYLLINE BY MOUTH

Report of One Case

L. MINOR BLACKFORD, M.D.

Atlanta

In 1917, Karl Zieler¹ reported five years of treatment of syphilis with novasurol, an organic preparation of mercury synthesized for the purpose of giving mercury intravenously; he was pleased with the results. This is the first clinical paper on the successful use of mercury intravenously that I have seen. Hugo Roesler tells me that a year or two after Zieler's report a fellow-intern at the Wiener Allgemeines Krankenhaus administered a dose to a waterlogged patient suffering with syphilitic aortic insufficiency and extraordinary diuresis was noted. Further clinical experience proved its value as a diuretic and its usefulness in this way all but completely overshadowed its original purpose.

Early in 1924, soon after the first appearance in the United States of a paper dealing with the use of novasurol, the drug was introduced at the Mayo Clinic. Keith and his associates found that acid salts intensified and prolonged diuresis. The administration of novasurol however was too often accompanied by toxic manifestations, and by 1927, a similar drug, salyrgan, had practically superseded it at the Mayo Clinic.

Salyrgan in the usual 10 per cent solution not infrequently obliterates the vein, particularly in negro patients. Moreover if any of it gets out into the subcutaneous tissues, as has happened once in my experience, an indolent slough is likely to result. For several years therefore I have at the Grady Hospital added four volumes of distilled water. In private practice I have substituted a solution of aminophylline for water, hoping to get a double diuretic action: the latter was my own idea though I learn that it had already been employed by several others.

Because of these objections, because edema and other cause may make venepuncture difficult, and because no patient likes

From Emory University School of Medicine.

to be needled at frequent intervals, attempts have been made to simplify the administration of salyrgan. Salyrgan as a suppository has some diuretic value, but in the few cases I tried it, it caused most distressing proctitis. Last year, the manufacturer combined or mixed salyrgan and theophylline. This preparation may satisfactorily be given as a suppository, or a solution of it can be injected intramuscularly without much pain. It has recently been prepared for oral administration, though it is still in the experimental stage. The tablet, known as S. T. O. 3813, contains 80 mg. of salyrgan and 40 mg. of theophylline.

REPORT OF CASE

In September, 1938, Mrs. K. J., aged 76, a few months after a coronary thrombosis was admitted with congestive heart failure to a hospital in Washington, D. C., under the care of Dr. Charles H. Wolohon. The congestive failure gradually became worse. Finally, "digitalis to the point of nausea" and other measures having failed to relieve her, she was given for a time 4 cc. of mercurpurin every second day and 4 to 6 Gm. of ammonium chloride daily, with satisfactory diuresis. She was then able to be up and about much of the day and on Dec. 12, 1939, to travel to Atlanta. That day Dr. Wolohon wrote, "The last month she had had one 3 cc. dose of mercurpurin, under which she lost five pounds, and a smaller dose, which was ineffective."

Mrs. K. J. came under my care Dec. 19, 1939. The heart was enormous. Over it a harsh murmur could be heard. The electrocardiogram showed serious damage. The blood pressure was not remarkable and the pulse slow. She was continued on digitalis and potassium nitrate was given daily. In the next two months it was proved that 2 cc. of salyrgan-theophylline plus 10 cc. of aminophylline solution every two weeks would keep her fairly comfortable. When she attempted to get along more than 14 days without an injection, her weight (normally about 152 pounds) would increase to 158 or 160, and symptoms and signs of myocardial insufficiency would become troublesome.

On Feb. 26, 1940, following the usual intravenous treatment she complained of disagreeable symptoms for a few minutes. On March 15 I gave her 2 cc. of mercurpurin with 10 cc. of aminophylline solution. During the injection she complained of nausea, headache, vertigo, visual disturbances and pruritus. She broke out in wheals on the forearms, became dyspneic and cyanotic, and she vomited repeatedly. By April 5 her weight had again reached 160 and she was orthopneic; though realizing the danger, since she had received without trouble many doses of plain mercurpurin in Washington, I administered 2 cc. of mercurpurin diluted with water. The reaction to this was alarming and lasted much longer. On April 20 she was again in distress; I dared to give her 2 cc. of plain salyrgan. Two hours later I was relieved that she was still living, but she was not com-

fortable for a day or two. We agreed that further intravenous therapy was out of the question, because, although the last four treatments had promoted excellent output, they had caused increasingly severe reactions.

Knowing of the work of Claiborne and Logue² with salyrgan-theophylline suppositories, I advised one of these every five days. The first was given before much fluid had accumulated, and for 16 days her weight remained around 153. The night of May 11 she broke out with a severe urticaria; the intense itching reminded her of that following the last few injections and she suspected it was the result of the salyrgan in the suppository. I agreed with her and discontinued the suppositories. Although her heart rate was constantly below 60, I increased the digitalis from six tablets a week to eight. By the 18th, however, her weight had gotten up to 156 and she was feeling "tight" again.

On May 13 I had an opportunity to consult Dr. E. M. Landis, of the University of Virginia. He suggested that she be desensitized with daily doses of salyrgan. Two days later a representative of the Winthrop Chemical Co. told me of the new salyrgan-theophylline tablets and on May 21 Mrs. J. was supplied with them. She took two a day for ten days and since then has taken one daily. She is now (August 10) able to go out to dinner or to a movie two or three times a week. Her present weight is 146 pounds.

Summary

An elderly lady, incapacitated for two years with congestive heart failure, kept relatively free from edema with fortnightly injections of salyrgan, became allergic to the drug. Salyrgan-theophylline suppositories caused similar manifestations. With the idea of desensitizing her, salyrgan-theophylline tablets were administered daily. For more than two months now she has remained free of edema without intravenous medication.

The oral use of salyrgan-theophylline in the treatment of congestive heart failure is not suggested to supplant the time honored methods, but to supplement them when needed.

NOTE: M. G. S., aged 84, with arteriosclerotic heart disease, who for six months had required frequent injections of salyrgan to keep him free of gross edema, has been comfortable now for five weeks with a salyrgan-theophylline tablet daily.

F. R., a colored woman of 40, who had required weekly injections of salyrgan for more than a year, has been kept free of manifest edema continuously for more than a month with one tablet daily.

REFERENCES

1. Kieler, Karl: Novasurol, ein neues Quecksilbersalz zur Syphilis-behandlung, mit Bemerkungen ueber die Grundsatzeder Quecksilber-behandlung, Mennch. med. Wsch-schrift 64: 1257, 1917.
2. Claiborne, T. S., and Logue, R. B.: Use of Salyrgan-Theophylline Suppositories in Congestive Heart Failure, J. M. A. Georgia 29:399, (Aug. 1940).

USE OF SALYRGAN-THEOPHYLLIN SUPPOSITORIES IN CONGESTIVE HEART FAILURE

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The purpose of this study is to determine the effectiveness of salyrgan-theophyllin suppositories¹ in the treatment of patients with edema due to congestive heart failure. For a number of years mercurial suppositories have been used in conjunction with other treatment to bring about diuresis in these patients. The rectal mode of administration has been advisable in some cases because thrombosed veins precluded the intravenous administration and it has been found useful in other cases because of the convenience of self-treatment. An outstanding disadvantage in the use of mercurial suppositories has been the frequent occurrence of rectal irritation, usually painful and occasionally of severe degree. The combination of theophyllin and salyrgan in suppository form may result in a less irritating treatment than the mercurial alone. Attention has been paid in the following study to the local effect in comparison with that observed with plain mercurial suppositories.

This study has been carried out on fourteen unselected cases of congestive heart failure and one case of cirrhosis of the liver. The treatment with suppositories has been in conjunction with the accepted treatment of congestive heart failure; namely, bed rest, limitation of fluids, digitalis, and such other treatment as has seemed necessary for the patient's well-being. In an attempt to judge their irritating effect an excessive number of suppositories were used in a few cases.

The results obtained and the fluid loss brought about naturally cannot be credited to any single part of the treatment, but the suppositories do cause an increase in diuresis. This diuresis is not as great of course as that obtained by the intravenous mer-

curial. In the treated patients variations in response were considerable, due to the varying severity of the disease and other factors that cannot be listed. One patient (Case 8) lost 33 pounds in five days of treatment. Only four suppositories were used. Another patient (Case 2) lost 33 pounds of weight in twenty days and received twenty suppositories. (Case 3). This patient had no weight loss and only very little improvement with all of the treatment used including salyrgan intravenously; however, the congestive failure in this patient was of mild degree only. One patient (Case 4) required paracentesis in addition to other treatment and this accounts in part for the great weight loss.

Three patients died while under treatment. In one, the patient had two suppositories and death was in no way related to treatment, being due to progressive failure of the kidneys in addition to the heart. The second was similar, the patient received five suppositories. The third patient (Case 11) had cellulitis and thrombophlebitis in one leg and died of pulmonary embolism. The cellulitis was present when the patient was admitted and it had no relation to treatment.

All patients who received the suppositories were questioned carefully for symptoms of local irritation. Only one patient (Case 7) had rectal burning; this was the patient with cirrhosis of the liver, who also had hemorrhoids which seemed to be irritated by the treatment; proctoscopic examination, however, did not show evidence of mucosal irritation. None of the other patients had symptoms; six were examined with the proctoscope and no changes were seen in the mucous membrane. Those examined in this way include cases 1, 2 and 3, who had 9, 20, and 9 suppositories respectively. From these observations we conclude that these suppositories are usually non-irritating even when given daily.

The cases observed are presented below in chart form. The degree of congestive heart failure is graded 1 to 4 as follows:— Grade 1: dyspnea with a few basal lung rales; grade 2: dyspnea, rales and moderate pitting edema; grade 3: the above with severe edema and enlarged liver; grade 4: the above with ascites and considerable

¹From Emory University School of Medicine.
Furnished through the courtesy of the Department of Medical Research of the Winthrop Chemical Co., Inc., New York City.

	Age	Sex	Degree of Failure	Digitalis	Ammonium Chloride	Salyrgan, Intra-venous	No. of Suppositories	No. Days Observed	Weight Loss Lbs.	Rectal Effects	Results
1.	36	M	3+	+	0	0	9	11	11	O P	Imp.
2.	49	F	4+	+	0	0	20	20	33	O P	Imp.
3.	41	M	2+	+	0	2cc	9	14	0	O P	No Change
4.	53	M	2+	+	0	0	2	8	8	O P	Imp.
5.	49	M	3+	+	0	0	2	19	0	O	Dead Uremia
6.	42	M	4+	+	0	2cc	3	6	27	O P	Imp.
7.	43	M	Ascites	0	0	0	4	6	7	O P	Imp. Cirrhosis
8.	27	F	4+	+	+	0	4	5	33	O	Imp.
9.	41	M	3+	+	+	0	5	6	16	O	Imp.
10.	50	F	4+	+	+	0	5	14	8	O	Dead Uremia
11.	42	M	4+	+	+	0	3	10	17	O	Dead Embolism
12.	31	M	3+	+	+	0	4	6	3	O	Imp.
13.	55	M	2+	+	0	0	3	7	13	O	Imp.
14.	39	M	4+	+	0	0	3	7	47	O	Imp. Had Paracentesis
15.	48	F	4+	+	+	0	5	30	34	O	Imp.

P — Proctoscopic Examination

pulmonary edema. There were 7 cases graded 4+, 4 cases graded 3+ and 3 cases graded 2+. All of the patients with congestive heart failure were digitalized. Under the heading "rectal effects" are noted the local results of the treatment. No patient other than case 7 had symptoms of rectal irritation. Of the 15 patients, 3 died as explained above. One patient (Case 3) did not improve despite all treatment given and he was released unimproved.

Comment: Salyrgan-theophyllin suppositories will cause diuresis in patients with congestive heart failure although the extent of their effect cannot be given here as they were used in conjunction with other treatment. While diuresis was observed, it did not seem to be as large as that obtained by intravenous mercurials. However, the rectal mode of administration is valuable in those patients with thrombosed and small veins and in patients who are treated in the home and need a mercurial diuretic frequently. With plain mercurial suppositories rectal irritation was seen frequently enough to discourage their usage but irritation has in most instances been lacking with the

salyrgan-theophyllin combination. If further observations bear out this finding, the drug will be valuable in the treatment of congestive heart failure.

PREScription REQUIRED IN 26 STATES FOR BARBITURATES SOLD TO PUBLIC

Retail sales of the barbiturates to consumers may now be made only on prescription by a physician in twenty-six states, as the result of laws enacted up to May 1, 1940, the Bureau of Legal Medicine and Legislation of the American Medical Association reports in the Association's *Journal* for May 18.

The states enacting such laws are Alabama, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Minnesota, Mississippi, Nebraska, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, Washington and West Virginia. In addition Oklahoma has a law providing that barbiturates may be sold to consumers either on prescription or without a prescription if the pharmacist records the sale in much the same manner as he is generally required to record sales of poisons.

"The laws that have been enacted follow no well defined pattern with respect either to the framework of the law or to the drugs included," the report states. "In practically all of the states compounds, derivatives and preparations of the included drugs are covered. In ten states the laws definitely either forbid the refilling of prescriptions or provide that they may be refilled only on the direction of the prescriber. In some of the laws pharmacists are required to retain prescriptions for barbiturates or other included drugs in their files for a definite period of time."

THE PREVENTION OF INFECTION BY AIR-BORNE BACTERIA OF OPERATIVE WOUNDS

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The occurrence of a series of postoperative wound infections during the years 1932-34 due to virulent hemolytic staphylococcus aureus led one of us (D. H.) to a study of the cause of this complication. To determine the source of the infecting organisms the operating room technic was carefully investigated. Cultures were taken from the skin of the patients after the field had been prepared for operation; from the hands of the operating team, the linen used for draping, sponges, autoclaves, sterile water tanks, hot water sterilizers, gloves, catgut, needles, silk, scalpels, and solutions and powder for the hands and gloves, etc. Cultures from all these sources were found consistently to be sterile. Freshly laundered sheets, blankets and uniforms used by the operating room personnel likewise showed no growth when cultured. The hemolytic staphylococcus aureus, the most common cause of our wound infections, could not be grown from the shoes worn in the operating room. Cultures taken from the walls, ceiling and floors of the operating room showed an occasional colony of hemolytic staphylococcus aureus so the rooms were repainted frequently and washed daily to reduce this possible source of contamination.

On the other hand, plates of sterile blood agar exposed to the air in any of the three large operating rooms, while operations were in progress, and cultured for 24 to 48 hours, showed as high as 78 colonies of staphylococcus aureus and the total number of colonies of all organisms at times was as high as 150.¹ Similar results were obtained by exposing blood agar plates in the operating rooms of a number of other hospitals in other states.²

From these studies it was inferred that

¹From the Department of Surgery, Duke Hospital, Durham, N. C.

²Read before the First District Medical Society, Savannah, July 19, 1939.

organisms falling into the wound, on the operating field, and on the sponges and instruments which were introduced into the wound were responsible for the wound infections we had been having. This concept was not new as illustrated by Lister's carbolic acid spray which was devised to eliminate infection from this very source. With the diminution in the number of surgical infections following the acceptance of Listerian antisepsis and later the asepsis of von Bergmann the infrequent wound infection usually has been ascribed to some break in technic rather than to contamination from the air. With the elimination of viable bacteria from supplies, and the fairly satisfactory control of infection from the operators' hands and the patients' skin, operations of longer duration and greater extent have been done and the more extensive surgical procedures have been developed. The occasional postoperative wound infection has become more common and is far more serious as a result of the extent and type of tissue exposed to infection. This has stimulated further investigation to discover their source. All studies have confirmed the presence of organisms in the air over the wound and many workers^{3,4,5} have shown that the upper respiratory passages are a source of supply of these bacteria. The inadequacy of the masks worn in the operating room has been demonstrated by a number of observers^{5,6,7,8}, and they have shown that the air contamination could not be kept as low by any kind of mask as when no one is present in the operating room.

Studies by one (D. H.) of us demonstrated that in Durham, N. C., there was a seasonal variation in the degree of contamination of the operating room air which paralleled the incidence of organisms present in the nose and throat of the operating room staff and general population^{9,10}. The incidence of wound infections corresponded to the degree of contamination of the operating room air. The conclusion that pathogenic organisms from the upper respiratory passages of the occupants of the operating room reached the open wound by way of the air and were responsible for the post-

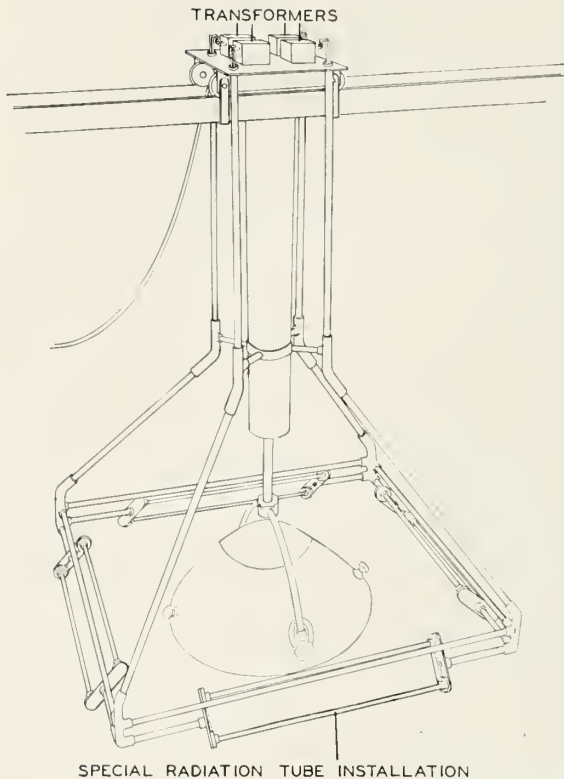


FIG. 1. The tubular lights providing bactericidal radiation (developed by the Westinghouse Electric and Manufacturing Company) are shown attached to a conventional overhead operating room light. Eight cold mercury vapor lamps supported on a framework of lightweight metal pipe carrying the wiring were used in the bacterial experiments and some of the operations reported in this article. The personnel of the operating room is protected from the radiation by their usual clothing, with the addition of eyeshades and hoods similar to the kepis of the French Colonial troops. The supply and instrument tables as well as the operating table are within effective range of the radiation from this unit. The supply and instrument tables are further protected by an accessory unit beneath a reflector immediately above the table.

operative wound infections seemed incapable.

Various conditions were considered as a possible cause of the supposed increase in the air contamination of the operating rooms. Among these were:

1. Diminution in the size of windows and particularly elimination of the large skylights over the operating room with the consequent decrease in the amount of daylight which might have some bactericidal effect.

2. Air currents from other parts of the hospital might bring in organisms from the bed patients when the operating room is in the same building with and close to the wards.

3. Increased occupancy due to the use of a larger personnel, more continuous use of the rooms, and larger numbers of visitors.

4. The presence of carriers with a high degree of nose and throat contamination.

5. The rooms might be persistently contaminated by viable organisms on the walls, ceiling, floor and equipment.

The air currents were eliminated by double doors which were closed automatically and the ventilating system supplying air free of pathogenic bacteria was run continuously during the operating day and supplied more air than was exhausted so that there was an outflow through cracks and doors when opened. The occupancy was decreased by elimination of visitors, reduction in the personnel, and large operative procedures were performed only as the first operation after the room had been closed for at least 12 to 18 hours. Masks were worn at all times by the personnel and patients and even by the cleaners and painters. Persistent carriers were eliminated, and the rooms were painted frequently and washed daily.

By these measures there was an appreciable reduction in the air contamination but occasionally a wound became infected with the same organisms that were cultured from the air during the operation.

Consideration was then given to building an operating room on the roof with complete separation from the hospital air currents and with the walls and roof of material permeable to the ultraviolet rays of the sun.

In 1934, at the suggestion of Dr. D. S. Martin, of the Department of Bacteriology, a carbon arc light was installed in the operating room with the hope that this would kill the organisms in the air. This did not prove effective. After preliminary tests with therapy ultraviolet lamps the senior author in the fall of 1935 obtained from the Westinghouse Electric and Manufacturing Company a cold tubular mercury vapor lamp with over 80 per cent of its output at 2537° at which in the intensity used destroyed the bacteria in the surrounding air¹¹ without exerting any demonstrable deleterious effect on the wound¹⁴. These lamps were installed in the operating room as shown in fig. 1 and numerous bacteriologic studies were made to determine the

effect of this radiation on the bacteria, the wound and the skin.

A detailed report of these investigations has been made previously^{1 11} and it is sufficient to state here that this radiant energy caused no harm to the patient, and fig. 2 is a representative picture of its effectiveness on bacteria. This radiation in the intensity used kills practically all bacteria in the air within a radius of 8 feet within 10 minutes. It destroys a lightly sprayed culture (filtered to remove clumps) of hemolytic staphylococcus aureus at 5 feet within 60 seconds. Studies are still in progress to determine the most efficient and practical arrangement for grouping the tubes about and over the operating room table but it can be stated that all units that we have used giving as much as 24 microwatts per sq. cm. at the operative site have given satisfactory results. The attachment to the standard operating room lamp as shown (fig. 1) was the first installation made, has proved its efficiency, and is the unit with which the earliest of the studies to be reported were made. Several other installations designed to give more intense irradiation over the sterile supply table, and more adequate sterilization of the air of the entire room have been used and the results with each of these will be reported at an early date.

Following the installation and general use of bactericidal radiation in our operating rooms the members of the surgical staff have shown an increasing feeling of security from the danger of postoperative wound infections. Whereas before the introduction of the bactericidal radiation unit extensive elective operations such as thoracoplasties had been deferred until the summer in order to reduce the possibility of wound contamination from the air, at present these operations are performed with greater safety during winter since the air with its high contamination can be sterilized and the perspiration of the summer months is absent. This confidence, brought about by the evident improvement in the general postoperative condition of the patients and the virtual elimination of severe postoperative wound infections, is confirmed



FIG. 2. Petri dishes of blood agar sprayed with a filtered suspension of staphylococcus aureus were exposed in the locations as shown. Those near the lights were killed within less than 10 minutes, while some of those at a distance of 10 feet survived more than 10 and less than 30 minutes of exposure. The organisms lying in the crescent-shaped shadow of the upright edge of the Petri dish were not affected since they were protected from the rays and serve as a control of the density of the inoculation.

by statistical analyses of comparable groups of cases^{12 13 15}.

Without the use of bactericidal radiant energy in the operating rooms in a series of 798 clean operations, many of which were of less magnitude than the group in which radiation was used, there were 32 (4 per cent) which showed a wound infection of sufficient seriousness to warrant this diagnosis as a postoperative complication. With bactericidal radiation in a group of 367 operations of greater average magnitude there were two (0.5 per cent) wound infections, both of which were superficial abscesses about skin sutures. The above statistics do not include thoracoplasties, which frequently are multiple stage pro-

cedures and as such should be grouped separately. In 110 thoracoplasties when radiation was not used there were 36 wound infections with four deaths as a result while in 175 similar operations when radiation was used there were only 10 infections, mostly in reopened wounds and all were mild or readily explainable on factors other than air contamination. There were no deaths from wound infections in the latter group. Before installation of the radiation in the operating rooms in January, 1936, there were in Duke Hospital 15,557 operations with 11 deaths as a result of wound infection in clean incisions.* Since that time out of a total of 23,216 operations over 2,000 of the larger clean operations have been performed in a field of bactericidal radiation with no death as a result of a postoperative wound infection.**

In addition to the diminution in the number and severity of wound infections, bactericidal radiation has also brought about improvement in the systemic reaction of the patient as indicated by an appreciable reduction (30-70 per cent) in the average duration and elevation of the postoperative temperature reactions in comparable groups of cases (extrapleural thoracoplasties, radical mastectomies, and herniorrhaphies) performed with and without sterilization of the air. There has also been an improvement in wound healing, with less reaction even when catgut has been used; convalescence has been shortened, and in multiple stage procedures (extrapleural thoracoplasties, thyroidectomies) the average interval between operations has been lessened.

Summary and Conclusions

The air in the operating room is contaminated with pathogenic bacteria which are exhaled from the upper respiratory passages of the operating room personnel. In well conducted operating rooms these organisms are the predominant cause of operating room infections in "clean incisions." At the operative site between 95 and 100 per cent of these organisms in the air can be destroyed by bactericidal radiant energy in an intensity which does not damage the tissues. Using strict asepsis, a meticulous technic, and sterilization of the air

with bactericidal radiant energy we have had no deaths from postoperative wound infections in clean incisions and such previously unexplained infections have been all but eliminated.

*Six other patients had a wound infection which was a contributing if not the primary cause of the postoperative deaths.

**One patient having a craniotomy without the use of bactericidal radiation for an inoperative brain tumor died as a result of hemolytic staphylococcus aureus meningitis.

BIBLIOGRAPHY

1. Hart, D.: Operation Room Infections, Arch. Surg. 34: 874-896, 1937.
2. Hart, D.: Pathogenic Bacteria in the Air of Operating Rooms, Arch. Surg. 37: 521-530, 1938.
3. Meleney, F. L., and Stevens, F. A.: Postoperative Hemolytic Streptococcus Wound Infections and Their Relation to Hemolytic Streptococcus Carriers Among the Operating Room Personnel. Surg., Gynec. & Obst. 43: 338-342, 1926.
4. Meleney, F. L.: Seasonal Incidence of Hemolytic Streptococcus in the Nose and Throat, in Surgical Operating Personnel: Significance of Masking During Operation, J. A. M. A. 88: 1392-1394, 1927.
5. Hart, D., and Schiebel, H. M.: Role of the Respiratory Tract in Contamination of the Air, Arch. Surg. 38: 788-796, 1939.
6. Davis, John S.: The Importance of Adequate Masking During Operations, Ann. Surg. 100: 1008-1013, 1934.
7. Walker, I. J.: How Can We Determine the Efficiency of the Surgical Mask? Surg., Gynec. & Obst. 50: 266-272, 1930.
8. Hunt, E. L.: Some Further Observations Upon Contamination of Operative Wounds (Air Borne Bacteria), New England J. Med. 209: 931-933, 1933.
9. Hart, D.: Sterilization of the Air in the Operating Room by Special Bactericidal Radiant Energy, J. Thoracic Surg. 6: 45-81, 1936.
10. Hart, D., and Gardner, C. E., Jr.: Sterilization of the Air in the Operative Region with Bactericidal Radiant Energy, Tr. South. S. A. 49: 337-403, 1937.
11. Hart, D., Devine, J. W., and Martin, D. W.: Bactericidal and Fungicidal Effect of Ultraviolet Radiation, Arch. Surg. 38: 806-815, 1939.
12. Hart, D.: Sterilization of the Air in the Operating Room by Bactericidal Radiant Energy, Arch. Surg. 37: 956-972, 1938.
13. Hart, D., and Upchurch, S. E.: Postoperative Temperature Reactions with Reductions Obtained by Sterilizing the Air with Bactericidal Radiant Energy, Ann. Surg. 110: 291-301, 1939.
14. Hart, D., and Sanger, E.: Effect on Wound Healing of Bactericidal Ultraviolet Radiation from a Special Unit: Experimental Study, Arch. Surg. 38: 797-805, 1939.
15. Hart, D.: Sterilization of the Air in the Operating Room with Bactericidal Radiation, Arch. Surg. (In Press).

SULFANILAMIDE AND EAR INFECTIONS

Premature withdrawal of sulfanilamide in the treatment of infections of the middle ear may cause the disease to recur and to spread, John Marquis Converse, M.D., New York, warns in *The Journal of the American Medical Association* for Oct. 7.

It is pointed out that treatment with the drug should be stopped only on clinical and laboratory evidence (blood tests) that the incriminating organism is no longer present. If the drug is stopped too soon the body's defensive mechanism is not prepared to deal with the remaining living streptococcal organisms and the patient has no immunity to his infection.

Dr. Converse believes that: "Sulfanilamide should be reserved for the treatment of spreading or life-endangering infections and it should not be used as an adjunct to the usual measures for the treatment of infections of minor severity.

"The amount of sulfanilamide required to sterilize a site of infection is so large that the danger of toxic manifestations necessitates the hospitalization of all patients receiving the drug."

TUBERCULOSIS OF THE BLADDER

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Tuberculosis of the bladder is seldom seen in this section of the country, but this fact should not deter us from eliminating this condition when determining the origin of a bladder infection. A persistent, prolonged cystitis of obscure origin should always be regarded with suspicion and make one think of tuberculosis.

Tuberculous cystitis is rarely a primary disease and often manifests itself as an accompanying disease of renal or genital tuberculosis. It is interesting to note the literature states that it occurs far more frequently in renal than in genital tuberculosis. Possibly this is due to the continuous inoculation of tubercle bacilli from the kidney. When the male bladder is infected, the prostate is also tuberculous, whether primarily or secondarily involved.

Before an attempt is made to treat tuberculosis of the bladder, it is necessary that a thorough search be made for the focus of infection, whether it be the kidneys, the genital system or elsewhere. The result of this exceedingly important step will indicate the method of treatment to be instituted. Diagnosis is often difficult as patients seldom present the expected symptoms of a tuberculous infection. They are not emaciated and weak, and they do not give a history of having night sweats and fever. In the search for renal tuberculosis as a source of infection of the bladder, there are three methods used extensively with varying degrees of success. These methods, all for demonstrating tubercle bacilli in the urine, are: (1) microscopic examination of smears made from the urine; (2) inoculating culture media with urine; and (3) inoculation of guinea pigs with urine. All methods present obstacles and are open to error. When only a few bacilli are present in the urine, the microscopic examination of smears may easily fail to disclose them and there is always the possibility of contamina-

tion with the acid-fast smegma bacillus. Culturing tubercle bacilli from urine is a difficult procedure and is unsatisfactory for routine clinical use, but with the facilities of modern laboratories this procedure is gaining favor as a means of diagnosis. Perhaps the most satisfactory method is that of inoculating guinea pigs, but this method is not infallible as there are possibilities of a previous tuberculous infection and of acquiring the infection in the pigs used for inoculation.

Necessary and invaluable aids in diagnosing renal tuberculosis are the cystoscope and retrograde pyelogram. The cystoscope is also indispensable in diagnosing and determining the progress of a tuberculous cystitis. The diagnosis of renal involvement is not to be entered into lightly; a meticulous technic is needed and extreme caution must be exercised in interpreting findings. The pyelogram is susceptible to error in interpretation and must be evaluated accordingly. Extreme caution should be used in making a diagnosis and a combination of the methods mentioned should be considered necessary for an adequate diagnosis.

In the hope that the bladder symptoms will abate, nephrectomy promptly followed by the general hygienic measures used in tuberculosis of any part of the body, is the recognized therapy in cases of unilateral renal tuberculosis. As the vesical lesions are so variable following nephrectomy, it is impossible to give a definite prognosis. It has been found in early cases of unilateral tuberculosis that the manifestations in the bladder either heal spontaneously or after suitable treatment when the offending organ is removed. To bring about a more rapid healing of the bladder, the inflow of tuberculous material must cease. It is best, therefore, to remove as much as possible of the ureter with the kidney as it usually shows tuberculous involvement also. In a large number of patients in whom the lesions of the bladder appeared minimal, the symptoms did not improve after nephrectomy. Additional treatments were required in such cases, and even additional

surgical procedures were sometimes necessary.

It is evident that every case of tuberculosis of the bladder must, first of all, be treated according to the general medical hygienic rules applying to pulmonary tuberculosis. Heliotherapy in tuberculosis of the bladder gives as satisfactory results as in tuberculosis of the lungs. The closer these methods are followed the better the results. In addition, local treatment should be instituted to heal the ulcerative processes of the bladder. Treatment of tuberculous cystitis consists of drugs, used by instillations and given orally, cystoscopic treatments and radical surgery. Treatment must be done so that no injury occurs through the introduction of instruments. All irritating factors must be avoided in the diet prescribed and in medicaments introduced into the bladder. In irrigating the bladder, extreme care must be used; the fluid must be warm and small quantities should be used to avoid the intense pain caused by distention of the bladder. The healing of tuberculosis of the bladder may be delayed by the ulcerative processes which develop at the sites of injuries. By observing these rules the treatment will be simplified.

A myriad of drugs have been used, many of which have given good results in the hands of some surgeons, but the same drugs may have been discarded by others as unsatisfactory. Methylene blue is one of the most widely used drugs. Irrigating the bladder with 5-15 cc. of a 1 per cent solution in normal saline has produced marked improvement in a small percentage of cases. Fair results have been obtained by administering small doses of this drug by mouth (3 to 10 grains daily). Sub-erythema doses of x-ray have been used during the time this treatment was given and proved useful in relieving pain. However, it is generally agreed that such treatments are merely palliative and not curative.

Numerous authors report instilling a solution of phenol in the bladder, using dilutions ranging from 1 to 6 per cent. Phenol used in this manner produces extreme pain and frequently has to be applied after the patient is given gas anesthesia. A review of

the literature reveals there are more unsatisfactory than good results from this method of treatment.

The majority of authors warn against the use of silver nitrate or any silver salt, stating they are not well tolerated. However, the best results reported have been obtained by injecting colloidal silver supplemented with sub-erythema doses of x-ray. Incidentally, the advantage of secondary radiation from the silver salts is obtained in this manner.

Quick and satisfactory results have been obtained from the use of only sodium bicarbonate. In most instances of tuberculous cystitis, the urine is acid. The tubercle bacilli do not withstand an alkaline media well and a change in the pH of the urine will give beneficial results. In addition to oral doses of 3 to 9 drachms daily of sodium bicarbonate, a 3 per cent solution of the same drug is used as an injection into the bladder.

A host of drugs have been used, including mercurochrome, bichloride of mercury and 20 per cent gomenol in oil, but the relief is only temporary and the end results are discouraging.

Endoscopic treatment has special advantages if the bladder shows ulcerations or tubercles, but this method is not advocated if the bladder is uniformly red and the lesions are extensive. Favorable results have been obtained by applying trichloroacetic acid directly to a tuberculous ulcer. The endoscope is passed and the tip of a ureteral catheter is placed directly over the lesion; an assistant then injects the solution through the catheter. As soon as the acid comes in contact with the lesion the diseased area becomes white. Each discrete lesion may be treated in this manner. Following the application of trichloroacetic acid, the bladder is irrigated with large quantities of water. Usually 3 to 6 treatments are sufficient.

Tuberculous ulcers sometimes require more intense treatment. In such cases electrocoagulation of the ulcers proved of value. In diffuse or multiple lesions it is often impossible to do this because further damage may be done to the bladder wall.

After all simple methods and endoscopic treatments have been tried, a few stubborn cases fail to heal. As a last effort to give relief, radical surgery has been advocated. Suprapubic cystotomy may be done but the outcome is always most unsatisfactory, both to the patient and physician. Transplanting ureters, either to the skin or large intestine, is a radical procedure and the dangers of ascending infection cannot be overlooked. Such operations should be performed as a last resort.

Report of Cases

Mrs. H. D., aged 50, married, was referred by her physician for urologic study on Jan. 18, 1938. She complained of frequent and painful urination. Symptoms had begun about five months previously with slightly increased frequency of urination and pain at the end of urination. In a few weeks these symptoms had increased in severity. On a few occasions the urine had a reddish tinge. At the time of examination the dysuria and frequency had become almost unbearable. Otherwise her general health had been fairly good. She had not had respiratory or gastro-intestinal disturbances.

The physical examination revealed a well-developed and nourished female. She appeared to be in some discomfort, although her general appearance was good. The physical examination was essentially negative.

A cystoscopic observation was made immediately and showed: The bladder filled to normal capacity. There were some floating pus and mucus but no stones. Around the left orifice and just posterior to the orifice there was a thickening or contraction which was edematous and red. This area had a peeling of mucous membrane or clinging mucus. There was one area of ulceration 1 cm. in diameter medial to the left orifice with the surface covered with salts deposits. The left orifice was entirely surrounded with edema and appeared crater-like. A complete G. U. study was advised, which was done two days later with the following report:

Bladder had the same appearance as on the previous observation. No. 6 catheters were passed. P. S. P. was given and appeared from both sides in 3 minutes. X-ray at this time showed no stones. There was marked irregularity in the margin of the calices of both kidneys and nephroptosis with dilatation of the pelvis and kinking of the ureter on the right side. Findings showed evidence of bilateral pyelonephrosis. Microscopic study of specimens from both kidneys revealed 3-7 red blood cells and an occasional pus cell in the specimen from the left; 3-5 red blood cells and a few pus cells in the specimen from the right. Specimen was collected for further study. The patient was put to bed on this date.

On Jan. 26, tubercle bacilli were demonstrated in the urine and silvol instillation was started daily. About a week later a cystoscopic observation showed the bladder much improved. The ulcer was one-third the size as at the previous examination. The redness was fading and the edema was subsiding. Silvol instillations were continued daily. On Feb. 16, a cystoscopic observation

revealed the left orifice nearly normal and the ulcer completely healed. Silvol instillations were continued every 2 to 3 days, and subsequent cystoscopic examinations disclosed the bladder continuously improving. On April 2, the patient was allowed to go to meals. On May 4 the bladder had a normal appearance and silvol was continued at weekly intervals. On Aug. 8, the patient had no symptoms and examination revealed the bladder entirely normal.

Mr. R. P., aged 21, single, was seen on Oct. 8, 1938, complaining of blood in the urine. His past history disclosed that he had hurt his penis slightly 1 month previously and had passed a small amount of blood. No more blood appeared until Oct. 3, when it was accompanied by frequent and painful urination. The pain continued for 10 minutes following urination. There was frequency during the day, but no nocturia. Blood at the end of urination continued and he was referred for urologic examination.

The physical examination was essentially negative. Examination of the chest revealed no pathologic changes. Urologic examination showed the urine to be cloudy; microscopic study showed many red blood cells and pus cells. There was a large left varicocele with long scrotum. The prostate felt normal. Size 32-F sound was passed, and there were no strictures. Wassermann and Kahn blood tests were negative.

A cystoscopic examination and pyelogram were done on Oct. 13 with the following findings: The bladder was red throughout. There was an ulcerated area found on the posterior wall of the bladder with contraction surrounding it. Ureteral catheters were passed with ease into each kidney pelvis and free drainage was obtained from both sides. P. S. P. test was normal. Pyelogram disclosed a dilatation of the lower half of the right ureter and a slight clubbing of the calices of the right kidney. The left pelvis was small and contracted. The calices were elongated and considerably clubbed. There were no stones. An x-ray of his chest was made on this date with negative findings.

On October 13 the urine was positive for tubercle bacilli. He was put to bed and general hygienic tuberculous treatments were instituted.

Three months later a cystoscopic observation showed the ulcers healed. There was a slight contraction of the bladder and a general chronic congestion. He was allowed to sit up, gradually increasing the time to 8 hours daily. He was then sent to Florida.

Following his return to the city three months later a cystoscopic observation revealed the bladder normal except for slight redness of each orifice and the vesical neck. Subsequent cystoscopic observation on May 1, 1939, revealed the bladder clear. Microscopic study of the urine showed only a rare red cell and epithelial cell. Six weeks later the urine was clear but observation at this time showed a slight increased redness of the bladder. He was given calcium mandelate and, on June 25, a cystoscopic observation showed the bladder to be entirely normal.

Conclusions

1. Early diagnosis of vesical tuberculosis is essential for satisfactory results with any treatment.

2. Conservative treatment as in other tuberculous conditions is necessary for ultimate recovery of the patient.

3. No specific medication is advised.

REFERENCES

1. Haslinger, K.: *Wien. med. Wehnschr.*, 79:652, May, 1929.
2. Papin, E.: *Arch. d. mal. d. reins, etc., Par.*, 3:451-495, February, 1929.
3. Keyes, E. L.: *Sou. Med. Journal*, 21:223, March, 1928.
4. Bate, John T.: *Am. Jr. Surg.*, 36:500, May, 1937.
5. Lazarus, Joseph A.: *Uro. and Cut. Review*, 41:550, August, 1937.
6. Carroll, Grayson: *Uro. & Cut. Review*, vol. XL, No. 8, August, 1936.

THE HYPERACTIVE CAROTID SINUS REFLEX

Report of Case

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The carotid sinus reflex has gained considerable attention since 1927 when Hering published his memorable treatise¹. No attempt will be made to cover the literature in this report, but I refer those of you who are interested in a more detailed account to the work of Weiss and Baker², Ferris, Capps and Weiss³, Weiss, Capps, Ferris and Munro⁴, and the monograph of Ask-Upmark⁵. An attempt will be made to point out the physiologic principles in the reflex mechanism producing syncope. The reflex is partly sympathetic. The nerve endings in the carotid sinus communicate with the medullary centers partly by way of the intercarotid nerve of Hering¹ and, to a less extent, through sensory fibers along the hypoglossal, glosso-pharyngeal, vagus and sympathetic nerves⁶. These impulses pass centrally and connect with efferent autonomic pathways, principally the pressor and depressor nerves. Its normal function is to maintain a constant blood supply to the brain under unusual conditions. For instance, there is a depressor response in low systemic pressure and an increase in CO₂ content of the blood. Consequently in cases of hyperirritability of the carotid sinus we can expect extreme changes in homostatic response to the various types of stimulation. The most common response is sudden syncope.

Three types of carotid sinus syncope have

been described. The vagal type is the most common. It is characterized by cardiac slowing which may progress to a complete asystole, cerebral anoxemia, some fall in blood pressure and increase in respiration. The reflex is abolished by atropine, epinephrine or ephedrine and is accentuated by digitalis and acetyl-beta-methylcholine. The depressor type is characterized by a fall in blood pressure, cerebral anoxemia and syncope. This reflex mechanism is abolished by epinephrine and ephedrine and is accentuated by nitrites. The cerebral type is characterized by a normal heart rate and blood pressure. The cerebral blood flow is normal and it is not influenced by atropine or ephedrine. The condition is accentuated by digitalis and sodium cyanide.

Abnormalities in the vicinity of the bifurcation of the common carotid artery are frequently seen. The most common of which is marked atherosclerosis. Large lymph glands in the vicinity of the bifurcation frequently associated with tuberculosis are thought to have some connection. Scar tissue formation and new growths also produce this effect.

The relation of neurosis to the hypersensitive carotid sinus has been clearly shown by Ferris, Capps and Weiss³. Most of the patients exhibiting such a sensitive reflex have a long background of what we classify as a "neurosis". The family history also is usually bad in this respect. Common complaints are "nervousness", palpitation of the heart, emotional instability, depression, loss of ambition and chronic fatigue. With attacks of syncope they frequently complain of dizziness, a feeling of numbness and tingling in the arms and legs. There are chronic yawns, sleepiness, weakness, dimness of vision and epigastric distress. Objectively one finds many signs of "neuro-circulatory asthenia", and hyperactivity of the sympathetic nervous system.

The treatment of this condition as recommended by Weiss, Capps, Ferris and Munro⁴ is denervation of the carotid sinns. This was done in ten of their cases and the reflex was stopped in eight—that is, they remained free from attacks. They also noted that following operation the neurotic manifes-

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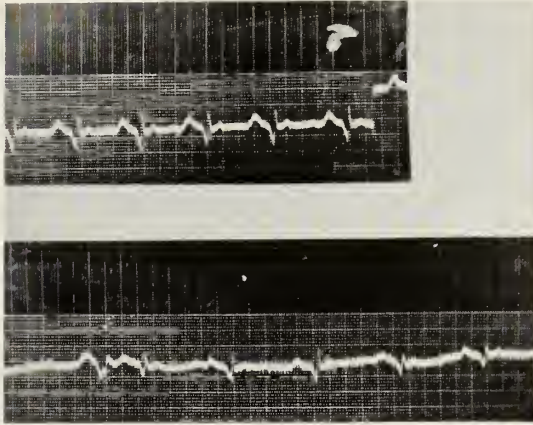


FIG. 1.

Upper tracing: Lead I (before operation) before pressure. Rate 77. QRS—.10.
Lower tracing: Lead I (before operation) after pressure on sinus. Slowing of rate to 55. QRS—.10.

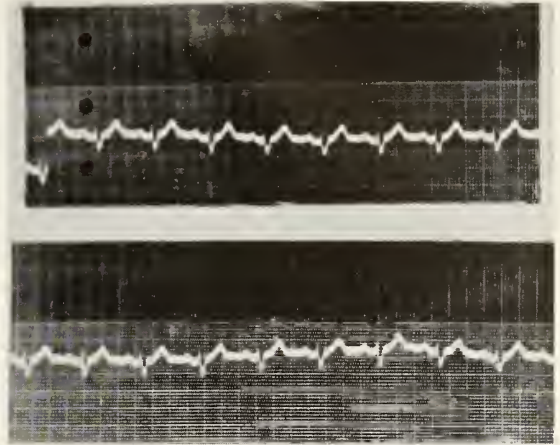


FIG. 2.

Upper tracing: Lead II (after operation) before pressure on sinus. Rate 90. QRS—.9.
Lower tracing: Lead II (after operation) after pressure on sinus.

tations of the patients were relieved, but as time passed these manifestations returned. The rise in pulse rate and blood pressure following operation also is transitory. There is no doubt that the carotid sinus is intimately connected with both the autonomic centers in the brain and various efferent pathways. It was thought by Hering⁸ that the carotid sinus had a major regulatory effect upon the autonomic system generally. The observations following the operations of Munro did not prove this⁴. The temporary influence on autonomic function following operation and the subjective improvement in the patient indicate a definite influence and relationship but are of no major importance.

Case Report

A white male, aged 59 years, was admitted to the University Hospital with a complaint of weakness, chronic fatigue, dizziness and sudden periods of fainting. The family history is well known to the staff of the hospital as permeated with many neurotic complaints and maladjustments. The organic findings have been generalized atherosclerosis and arteriosclerotic cardiorenal disease. The past history of the patient presents three previous admissions to the hospital: the first for pneumonia of the left lobe and thrombophlebitis of the left leg; the second for arteriosclerotic heart disease; and the third for a foreign body in the right foot. He has had many diagnoses of "neurosis" in the clinic. He dates his present illness to 1937; while straining on the toilet he suddenly fainted and after lying prone on the floor for a short period of time he regained consciousness. There was no warning and no after effects were noted. Previous to this time he had noted marked palpitation of the heart upon exertion of any type. There had been an increase of sweating of the right arm and

hand with frequent cold, clammy sensations. He had complained of marked griping in the stomach with gastric distress. He was continually constipated and used the most drastic means of elimination. After his first spell, in 1937, he was affected with similar manifestations every day and sometimes twice a day for a month. He was taken to the hospital where a diagnosis of arteriosclerotic heart disease was made. After a prolonged rest he resumed light work, but when he lifted heavy objects and undertook hard manual work he would fall without warning as he had previously done. He also noticed shortness of breath while working. This has continued until the present date and has earned for him the diagnosis of a "chronic neurotic". A preliminary examination was made in the clinic, and at this time pressure over the carotid body caused a fall in pulse rate to 50 from 92, a concomitant drop in blood pressure from 130/90 to 80/40, and he became unconscious. He was admitted to the University Hospital for study on Feb. 29, 1940, with a diagnosis of hyperactive carotid sinus, right. Physical examination revealed a fairly well developed and nourished man with a pulse rate of 80, respiration 20, temperature 99, and blood pressure 110/65. Examination of the neck on the right side disclosed a small nodule about the size of a pea at the bifurcation of the carotid artery which pulsated with the excursion of the artery and appeared fixed to the artery. The pupils were 3 mm. in diameter and reacted well to light and accommodation. The fundi showed marked arteriosclerosis with no exudate or retinitis. The heart was found to be slightly enlarged to the left. There were no murmurs and the rate and rhythm were normal. The lungs were normal to inspection, palpation, percussion and auscultation. The stomach was tender in the mid-epigastric region where he had complained of a griping sensation for some time. There was no muscle spasm and no masses were felt. The liver, spleen and kidneys were not palpable. The genitalia and extremities were normal. Neurologic examination disclosed nothing of interest.

Laboratory examinations revealed negative urine, 4-

740,000 red cells, 7,750 white blood cells, and a smear showed normal red cells; differential count: polymorphonuclears 66 per cent, lymphocytes 29 per cent, and eosinophils 5 per cent. The blood Wassermann and Kahn were negative. In the standing position pressure over the left carotid bifurcation produced a slight fall in pulse rate but no dizziness or feeling of fainting. Pressure over the right bifurcation produced a fall in pulse rate from 80 to 50 in 30 seconds and then to a complete standstill for a few moments. The blood pressure fell from 116/80 to 90/60. There was an almost immediate feeling of weakness, dizziness, increase in respiration to 40, and the patient felt himself going to sleep as he went into syncope. After a few moments he recovered and stated that he felt fine but was weak in the knees. The pulse, respiration and blood pressure had reached the same level as before pressure was begun.

The following day he was given 1/50 grain of atropine intramuscularly and pressure was applied to the carotid body. There was some prolongation of the effects of pressure but syncope resulted in 45 seconds. The pulse rate fell from 80 to 70 but otherwise was not affected. He was given epinephrine following this which increased the effect and the time elements. He was not tried on digitalis.

An electrocardiogram was taken and the following report was made by Dr. Harry Harper of the Department of Cardiology: Normal sinus mechanism; arborization block; ventricular premature beats; myocardial damage, grade 2. After carotid sinus pressure there were frequent ventricular premature beats. There was considerable somatic muscle tremor. After about 20 seconds the rate slowed to 63. The P-R interval could not be measured. After another 10 seconds the rate was 55, but the P-R interval could not be measured because of tremor. After another half minute ventricular premature beats from different foci were seen. The P-R interval was 0.13 at this point. After release of pressure on the carotid sinus there were seen several instances of ventricular escape; a definite A-V nodal rhythm was present with a rate of 97 and P waves buried in QRS complexes. This persisted for 25 seconds at which time ventricular premature beats from still another focus appeared. Ventricular escape occurred and normal sinus rhythm was resumed with a P-R of 0.16.

Dr. Harper's conclusion was that carotid sinus pressure stimulated vagus response producing sinus bradycardia. This probably progressed to such a point that auricular impulses were delayed and the A-V node assumed its function as pacemaker. It was concluded that the delay in conduction and abnormal rhythm was more apt to occur in this patient since he had an abnormal conduction system. Because of the disabling symptoms a denervation of the carotid sinus was thought advisable in this patient. This was done under intratracheal cyclopropane on March 6, 1940. The adventitia stripped easily from the carotid artery at the bifurcation. In the wall of the artery and at the upper outer angle in the bifurcation there was a nodule the size of a pea which was hard and not movable and which seemed to be on the inner surface of the artery. This was thought to be an atheromatous plaque. Pathologic

examination of the material removed showed carotid body and nerve within the section of loose connective tissue. On March 12, 1940, the patient was tested again. After pressure over the right carotid bifurcation for one minute the pulse rate was 84, the same as before manipulation was begun; after two minutes the pulse was still 84. The blood pressure readings were 130/80, 140/85 and 150/90 following the same period. Upon a second trial the blood pressure was 135/80 after one minute and 155/90 after two minutes. During this period the patient had no complaints and there was no syncope. He stated that he felt better than he had felt for years. The stomach complaints have gone and he has not felt "nervous."

Conclusions

This patient presents a mixed vagal and cerebral type of carotid sinus hyperactivity. The fact that the pulse did become slow on sinus manipulation and this slowing was improved by intramuscular injection of 1/50 grain of atropine proves the vagal influence. The electrocardiographic findings also substantiate this. The immediate syncope following atropine points to the cerebral type. Epinephedrine increased the activity of both responses. The appearance of the arborization block in the electrocardiogram is of interest. The myocardial damage resulting from arteriosclerosis may be the entire cause of this finding; however, it is of interest to speculate on whether the over action of the vagus during prolonged periods of time may have had some influence upon this condition and whether some of this could have been prevented by early therapy to the carotid sinus. This arborization block was not found on the previous electrocardiographic tracing. The well-being that followed the stripping of the carotid artery is in line with the findings of Munro and others. The relief of syncope has been complete as it was reported by others. The slight rise of blood pressure following surgery is in line with the findings of Weiss and others. Finally the follow up electrocardiographic study disclosed no response to pressure upon the bifurcation of the carotid artery, proving the efficacy of surgical therapy. This is another example of a patient suffering from a condition closely simulating a neurosis and which has been treated over a prolonged period of time as a neurosis and which has been completely relieved following careful study and surgery. A plea is made for more careful

study of patients before the damning diagnosis of "neurotic" is made as this seems to have a hypnotic effect upon the physicians they consult.

REFERENCES

1. Hering, H. E.: Karotissinusreflexe auf Herz und Gefaesse vom normalphysiologischen, pathologischen-physiologischen und klinischen standpunkt, Dresden, Thiodor Steinkopft. 1927.
2. Weiss, Soma, and Baker, J. P.: The Carotid Sinus Reflex in Health and Disease: Its Role in the Causation of Fainting and Convulsions, *Medicine* 12:297, 1933.
3. Ferris, E. B., Jr.; Capps, R. B., and Weiss, Soma: Carotid Sinus Syncope and Its Bearing on the Mechanism of the Unconscious State and Convulsions: A Study of 32 Additional Cases, *Medicine* 14:377, 1935.
4. Weiss, Soma; Capps, R. B.; Ferris, E. B., Jr., and Munro, D.: Syncope and Convulsions Due to a Hyperactive Carotid Sinus Reflex: Diagnosis and Treatment, *Arch. Int. Med.* 58:407 (Sept.) 1916.
5. Ask-Upmark, Erik: Carotid sinus and the cerebral circulation; An anatomical, experimental and clinical investigation, including some observations rete mirabile caroticum (*Acta psychiatrica et neurologica. Supplementum* 6) Dn. 374 p il. 18 Kr. '35 Levin.
6. (a) Sunder-Plassman, P.: Untersuchungen ueber den Bulbus carotidis bei Mensch und Tier im Hinblick auf die "Sinus-reflexe" nach H. E. Hering: Ein Vergleich mit anderen Gefass-strecken, die Histopathologie des Bulbus carotidis: Das Glomus caroticum, *Ltschr. L. d. ges-Anat.* (Abt. 1) 93:567, 1930.
(b) Braeucker, W.: Neue Untersuchungsergebnisse "ueber das pressorenzeptorische Nervensystem und seine praktische Bedeutung in der Chirurgie, Zentralbl.
7. Ferris, E. B., Jr.; Capps, R. B., and Weiss, Soma: Relation of the Carotid Sinus to the Autonomic Nervous System and the Neuroses, *Arch. Neurol. & Psychiat.* 37:365 (Feb.) 1937.
8. Hering, H. E.: Der Blutdruckzugleonus in seiner Bedeutung fur Parasympathikustonius und Sympathikustonius. Leipzig, Georg. Thieme, 1932.

CONGENITAL PREAURICULAR FISTULA

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Various names have been given the small dimples or sinuses that are seen in the region of the tragus and the crus heliis. Sir James Paget¹ has received credit for having described the conditions in 1878, terming them congenital preauricular fistulas. Hensinger in 1864² was the first to describe this as a preauricular sinus.

Preauricular external fistula is a common developmental anomaly which infrequently requires surgical intervention. The condition is thought to occur as a result of the failure of complete fusion of the ectoderm in the formation of the ear.

The defect is most often manifested as a small pit anterior to the helix of the ear. Complete fusion of the ectoderm usually occurs but occasionally a sinus remains. When a fistula exists there may be drainage of the seropurulent or sebaceous material which develops within the epithelialized tract.

The following cases are reported which

demonstrate these defects with their complications.

REPORT OF CASES

Case 1—B. C., male, aged 5, was seen on Feb. 9, 1939. It was noted at birth that there was a small dimple in front of the upper part of the left ear. This caused no trouble until about one year before examination when an enlargement appeared anterior to the left tragus. This was tender and presented all signs of an abscess, which was incised and drained by the family physician. A moderate amount of purulent material drained from the center of this area for several months, during which time granulations developed within the area.

Examination revealed an area of granulation about two centimeters in diameter in front of the tragus of the left ear and extending to the zygomatic bone. There was an opening anterior and at the end of the left helix. A probe could be inserted into this opening for about one-half centimeter. Pressure on the affected area forced a thick creamy pus from the granulations and from the fistula in front of the ear.

The child was normal in every respect except for this single anomaly. Past history was negative. The family history revealed two members to have a similar condition. A paternal aunt and a paternal male first cousin have small unilateral dimples which have never caused symptoms.

On Feb. 10 the child was operated on at Emory University Hospital. The external opening was injected with peroxide of hydrogen which came from the center of the granulating mass. A probe was then inserted into the fistula through the tract to the abscess and the communicating tract incised. There were apparently no secondary sinuses or tracts. The excessive granulations were completely curetted down to the deep fascia. The wound was packed loosely with vaseline gauze and kept open by periodic packing, remaining open several weeks but gradually healing from the center. The area completely healed with no disfigurement.

Case 2—L. C., Negro, male, aged 30. The patient was admitted to Grady Hospital April 1, 1940, for an operation for a benign fibroadenoma in the left breast. On general physical examination there was noted a small dimple in front of the crus heliis of the left ear. This had been present since the patient could remember. The family history failed to reveal similar conditions. The only symptoms from the lesion occurred several years ago when there was a small amount of thin yellowish discharge from the opening. This lasted only a few days and disappeared without consequences. The external opening readily admitted a small probe which could be inserted for about three-fourths of a centimeter. Since there was no discomfort from this lesion, no therapy was indicated.

Discussion

The interesting feature of these processes is the frequent tendency for them to occur in certain families. There is some difference of opinion regarding the exact mode of development of these fistulas. His³ was

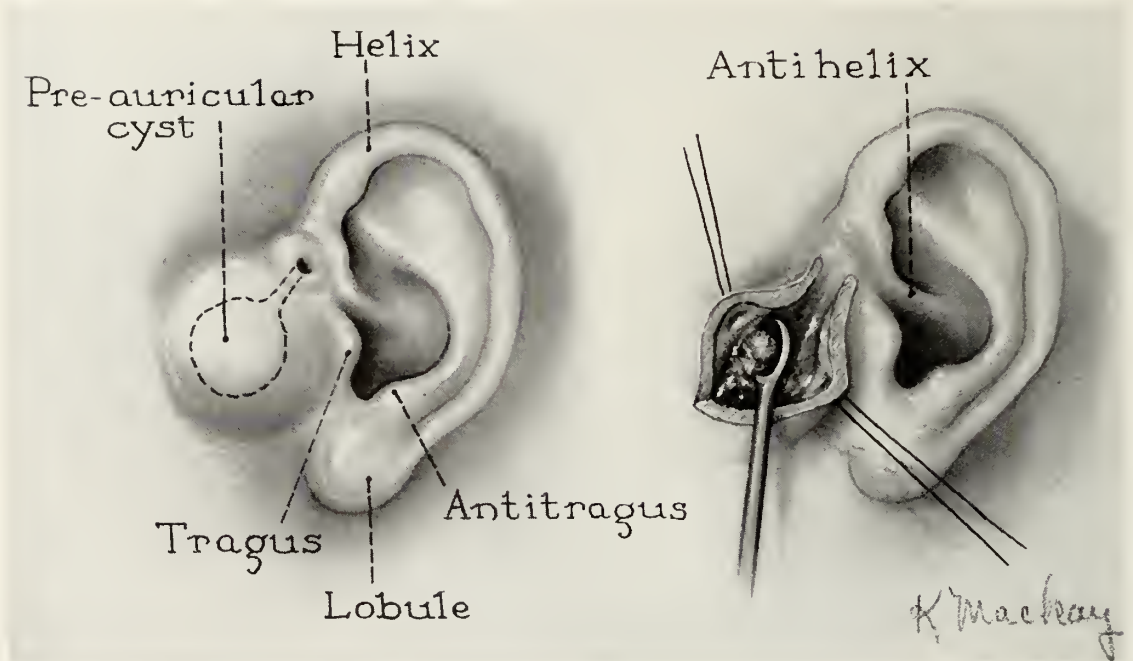


Fig. 1, Case 1: Demonstrating position of preauricular fistula and course of its tract with infection at the end of this tract. The tract has been incised with exposure of the epithelial lining.



Fig. 2, Case 2: Demonstrating external preauricular fistula with probe inserted in the tract anterior to the crus helix.

the first to advance the theory that the origin was from the remnant of the first branchial cleft. A most plausible origin is the failure of union between the tubercles which develop from the posterior ends of the first branchial clefts. The crus helix and the crus supratragicum are usually the tubercles in which a deficient union occurs. Normally these tubercles become fused and form the various portions of the lobule of the ear. The failure of union results in the infolded layers of epithelium which may exist as a single dimple or a depressed area which may extend inward and remain as an external fistula.

Wood-Jones and I-Chuan³ have made studies of the external ear in order to determine what participates in the development. Their conclusion is that the lobule of the ear is a hyoid derivative. The mandibular portion is represented only by the tragus and the external auditory meatus. The external fistula and the preauricular appendages are in the line of the first pharyngeal depression.

These tracts are lined by a layer of squamous epithelium which is continuous with that of the face and ear. Becker and Brunschwig⁴ demonstrated that the blind end of the sinus was lined by columnar epithelium. Symptoms are never produced unless there is an associated growth or infection within the tract. Secretions may accumulate and fail to discharge as in all fistulas. If the opening of the fistula is closed, an abscess or cellulitis may develop as in case 1.

Treatment

The recognition of these fistulas is essential when secondary sinuses or abscesses develop. The presence of a small depression at the crux of the helix of the ear associated with roughened skin or thickening beneath is usually the characteristic finding. If the lesion exists as a depression or a tract without the history of infection, no therapy is indicated. When repeated dis-

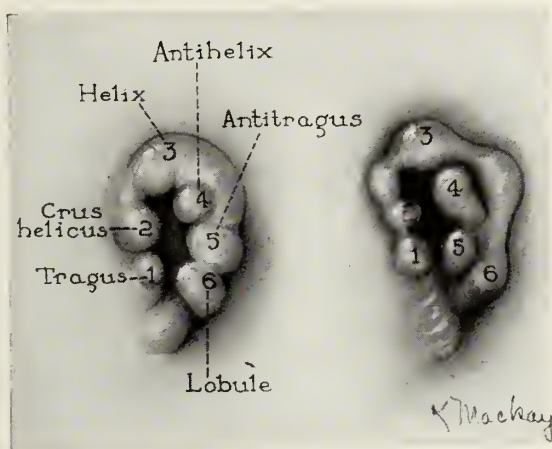
TREATMENT OF SUMMER DIARRHEA
IN INFANTS*A Preliminary Report*HARRY E. TEASLEY, M.D.
Hartwell

Fig. 3. Diagram showing development of the external ear. Tubercles representing the various portions of the ear. External fistulas are supposed to occur with the failure of complete union between the first and second tubercles.

charges occur the tract should be completely extirpated. In the presence of infection with multiple sinuses they may best be treated by communicating the openings and incising the tracts. The epithelial lining may be destroyed by curettement and allow healing to occur from the depth. Cauterization of the tracts alone is insufficient to cure these conditions. The results in treatment by either method should be satisfactory provided there is a complete knowledge of the pathologic process.

Summary

1. Two cases of preauricular external fistulas are reported.
2. The complicating feature in one was the development of an abscess within the tract. The second case was an external fistula that did not require treatment.
3. Possible explanations for the genesis of these processes are given.
4. The recognition of these fistulas is essential when secondary sinuses or abscesses are seen in order that adequate treatment may be instituted.

BIBLIOGRAPHY

1. Klaber, Robert: Two Cases of Preauricular Fistula, *Proc. Roy. Soc. Med.*, Vol. 28, p. 1553, June, 1935.
2. Dingman, R. O.: Congenital Preauricular Fistula, *Arch. of Otolaryn.*, 29:982, 1939.
3. Wood-Jones, Frederick, and Wen I-Chuan: The Development of the External Ear, *J. Anat.*, 68:524, 1933-34.
4. Becker, S. W., and Brunschwig, A.: Sinus Preauricularis, *Am. J. Surg.*, 24:174, 1931.

In answer to an inquiry as to why human beings cannot exist on salt water used to quench their thirst, *Hygeia, The Health Magazine*, explains: "The body fluids contain about 1 per cent salt. Sea water contains about three times as much salt of various kinds. When a fluid with a high salt content is taken into the mouth, it extracts water from the tissues and the blood stream. The dryness of the mouth and throat and the sensation of thirst are therefore increased."

I wish to make a preliminary report on the treatment of certain types of summer diarrhea in infants based upon observations in a small series of cases. At a later date I hope to make a more complete analysis of this type of treatment. The reason for the preliminary report is that we shall soon be confronted with this condition and I believe that if a group of doctors observe the effects of the treatment that we will get a more accurate appraisal of the value of the procedure.

First, I wish to make a simple classification of the summer diarrheas. We have two main types; namely, the infectious and the non-infectious. The infectious should really be classified as a dysentery. I do not use the term bacillary dysentery as I am not convinced that other bacteria besides the dysentery bacillus may not be the cause in certain of the cases. Also under the head of the infectious diarrheas should be those associated with infections in other parts of the body, as in the case of diarrhea seen with cases of otitis media.

The second group or the non-infectious type is the one which I am chiefly discussing in this paper. We usually find it among infants who have had an improper diet due to ignorance or carelessness of the parents. The giving of proper vitamins has been neglected. Quite commonly it occurs in artificially fed infants. We usually find an undernourished infant, with frequent watery stools, with a foul odor, which tend to become greenish in color; there is usually no blood but mucus is usually found, vomiting is often associated with this condition. At first the fever is not so high, but as the patient becomes worse, it increases. There is always dehydration which tends to become worse. This is a picture that we are all familiar with and we find that in spite of any type of treatment some of these patients will die, especially those that are first seen in the late stages of this condition.

The past summer I had several of the very severe type of non-infectious diarrhea. In spite of treatment I lost two cases. The diarrhea and vomiting were so severe that we simply could not get enough nourishment absorbed. I gave fluids by hypodermoclysis and intraperitoneally to no avail. At no time did these patients appear to be ill with the infectious type.

With these failures in mind the question arose as to what was the etiology of such cases. I thought of the various types of conditions that caused diarrhea in the adult and the only thing which I thought applicable to the infant was pellagra so why couldn't this be pellagra

in the infant? I knew that you could have a subclinical type of pellagra without the skin lesions and so I reasoned that you could have the same type of thing in the infant. In the light of further study since that time I believe that a Vitamin B deficiency would be more nearly the name for such a condition than pellagra. With this in mind I decided to discontinue all treatment except diet, vitamins, and particularly nicotinic acid.

The following is a resume of my treatment: (1) I have always made it a practice to start the treatment of this condition with castor oil and if this cannot be retained I use calomel. (2) A full formula diet. (3) Cod-liver oil concentrate—I believe that the whole cod-liver oil is poorly tolerated by these patients. (4) Tomato or orange juice in small amounts although we may find that cevitamic acid is better than the fruit juices. (5) Nicotinic acid. I arbitrarily started with about one-eighth the average adult dose, namely 6 mg. twice daily. This amount was given to infants weighing only 5 pounds. I used somewhat larger doses with infants above 20 pounds.

The first three treated were small infants and two of them were premature infants. They had previously been treated with some of the usual methods employed, including the use of bismuth and paregoric. All of this type of medication was discarded and I followed the plan outlined above. Incidentally one of these infants had had cod-liver oil and orange juice but had developed the diarrhea. The results were surprising and somewhat dramatic. In all of these cases the diarrhea had stopped within thirty-six hours or less, in fact, one of the patients was never seen again and the results were reported by other members of the family.

The last case treated by this method was that of a diarrhea associated with otitis media. The results were not so striking. A cure was accomplished with the help of sulfanilimide. It would thus seem that we should not expect such good results in the infectious type of cases. I intend to study this further as it is quite possible in the true infectious types, that is, a prolonged illness with severe diarrhea we may get poor absorption, and that together with the infection we may also get a deficiency in the nicotinic acid. In such a case the use of the drug would be indicated.

It is a peculiar fact that most of these diarrheas occur in the summer months. It is my opinion that we have a dietary deficiency and more particularly of the vitamins. In the summer there is more likelihood of the milk or other food not being kept as it should and this is enough to cause a break in the narrow balance and the appearance of symptoms. It has also been our experience that the skin lesions in pellagra were more pronounced in the warmer months. I realize that this explanation does not fully explain the situation.

Summary

1. There are two main types of summer diarrhea in the infant; infectious or bacterial and non-infectious or dietary.

2. Either type may cause the death of the patient.

3. I believe that in the non-infectious type we may be dealing with a nicotinic acid deficiency and in three cases the use of nicotinic acid was followed by a rather dramatic recovery.

4. I do not consider that three cases solve the problem nor do I consider that nicotinic acid is a cure-all. I hope to make a more complete study with a further report at a later date.

POLITICS AND THE PHYSICIAN

JACK C. NORRIS, M.D., Atlanta

Today the politically-active physician is a most unfortunate person. The moment he begins to take part in politics his brethren start to "nail him to the cross" and accuse him of being a "political doctor," or an irregular, insincere individual who is indifferent to the old ideals of his profession.

Such treatment accorded the honest politically-minded physician is unkind, improper and unfair. We should remember that we are living in a changing world. Conditions that prevailed yesterday are old and outmoded today. This is a world of new adventures, new thoughts, new activities, new principles and new people.

In most countries other than the United States, doctors are quite active in governmental functions. Frequently they rise to high positions and become great leaders of singular importance. Today as never before satisfactory government depends upon the good character and dependability of its officials. It is not amiss to feel that most physicians are sufficient in that regard, thus they should allow some of their valuable time for public service in order that they may be of greater aid in making better the conditions under which all our people might enjoy greater freedom, health and happiness, free from political corruption.

It is, therefore, hoped that the members of our group will be more tolerant, and that from time to time we shall present some of our men for high office as candidates. There are a thousand issues before the people and the nation wherein the physician's general knowledge, his experience and his tolerant understanding of human nature would make of him a valuable public servant.

THE PRESIDENT'S PAGE

PREPAREDNESS

"The Price of Freedom Is Eternal Vigilance."

The democracies of the world today have lost or are about to lose their liberties, because they have forgotten this famous quotation. Having become self satisfied, luxury loving, and negligent of this eternal vigilance has caused their downfall, and we in this country are threatened with the same fate unless we prepare to defend ourselves and prepare on an unprecedented scale.

Preparedness was probably responsible for the settlement of Georgia as a colony. Oglethorpe founded Georgia as a buffer state to protect the other twelve colonies from the attacks of the Spaniards on the South and on the West.

The first physician in Georgia, Dr. Noble Jones, was not only the first colonial doctor in Georgia but was a Colonel of the First Georgia Regiment. He and his son, Dr. Noble Wymberley Jones, played an important role in preparing the State against the attack of the Spaniards and the Indians.

One of the signers of the Declaration of Independence from Georgia was Dr. Lyman Hall.

Throughout all of the wars through which our country has struggled Georgia doctors have been a contributing factor. In World War Number 1, in addition to the many individual doctors in all parts of the State who gave their services, the Emory Unit, made up almost entirely of Georgia doctors, made a great record as a Base Hospital at Blois, France, and, in 1918, you could almost call the roll of the Famous Class of 1913 of the School of Medicine of Emory University in France.

Once again our independence and our position in the world as a great free nation are threatened, and it is imperative that we, at once, prepare and that we do so on an unlimited basis. If we do not wish to lose our highly prized liberty we must be willing to sacrifice our money, our goods, our time, and, if necessary, our lives.

Any proper preparedness program will of necessity require many doctors; in fact, it will require all of the doctors in the United States in some capacity. In addition

to the doctors who will be called for active duty with the Army, Navy and Marine Corps, it will be necessary to have doctors at home to examine draftees, to supervise the health of the workers in industrial plants and munition factories, to promote the public health and the normal practice for the civilian population and to teach in medical schools, so that there will be no interruption in the supply of doctors.

In order that there may be no confusion and that every doctor may serve where he will be of most value to his country, the A. M. A. has appointed a committee of twelve men in different sections of the country. This committee, in cooperation with Surgeon-Generals of the Army, Navy and Public Health Service, will formulate plans for a National Preparedness Medical Program.

Georgia is honored by having Dr. J. E. Paullin, of Atlanta, to represent the Fourth Corps Area on this committee. Each state medical association is to appoint one of its members to aid the committee in determining where each doctor can give the most valuable service.

In order to catalogue each doctor in the United States you have already received or will receive within the near future a questionnaire. Please fill it out and send it in immediately if you have not already done so.

In this time of your country's need it is hoped that everyone will volunteer his services; the committees can then place each doctor where he can appropriately render the most beneficial service. It may be that one's best service to his country can be rendered by continuing what he is doing now; if so, the committee will see that he is left alone to do that, or it may be possible that being physically fit and available he can render better service in the Army, Navy, or Marine Corps. In whatever capacity he may best aid his country that is where it is hoped that he will be placed, and I am sure that every doctor in Georgia will be willing to do his part toward the defense of his country, always keeping in mind "The Price of Freedom Is Eternal Vigilance."

J. C. PATTERSON, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

AUGUST, 1940

FELLOWS OF THE SCIENTIFIC ASSEMBLY OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association is a federacy of its state medical associations. All members of our county medical societies are members of the Medical Association of Georgia and their names are certified for membership in the American Medical Association. On March 1, 1940, there were 115,381 members of the American Medical Association, of whom—as of April 1, 1940—1,964 were members of the Medical Association of Georgia. This is indispensable for doctors of medicine. Every member of a profession should consider membership in his professional organization the first essential.

However, mere affiliation is not enough. Every member desires to promote the scientific accomplishments of his profession. This work in the American Medical Association is carried on by the Scientific Assembly. All members are eligible to become Fellows of the Scientific Assembly but this is purely voluntary on the part of each member. The Scientific Assembly is the convocation of the Fellows for the presentation and discussion of subjects pertaining to the science and art of medicine. In addition to forming and conducting the Scientific Assembly, all Fellows receive *THE JOURNAL* of the American Medical Association or any one of the special journals published by the Association. *THE JOURNAL* of the American Medical Association, published weekly, is the largest and most comprehensive medical journal in the world. Throughout its many departments will be found much that is of interest and value to every physician. Any doctor who wants to keep abreast of the times cannot afford not to receive it. Fellowship dues are only eight dollars a year.

In Georgia, out of a membership of

1,964, only 702, or 36.8 per cent, are Fellows of the American Medical Association, whereas 115,381 members in the United States as a whole have 71,680 Fellows, or 61.7 per cent. Surely Georgia physicians are interested in and want to promote the science and art of medicine, but the figures show us to be much below the national average. We hope that every member of the Medical Association of Georgia who can possibly do so will demonstrate his interest in and loyalty to his community, State and profession by becoming a Fellow of the American Medical Association.

ALLEN HAMILTON BUNCE, M.D.

MEDICAL PREPAREDNESS

Over 40,000 members of the American Medical Association returned their questionnaires to Chicago in less than ten days. What a magnificent response! These questionnaires were prepared with the cooperation of the medical departments of the United States Army, the Navy and the Public Health Service. They are as concise as is consistent with completeness. This information must be obtained by the Government. Is it not better for us to furnish it voluntarily than to have it obtained from other sources? The return of questionnaires carries no obligation at all; it is to get facts. Let's return them at once so that the real facts may be on record about each one of us instead of hearsay reports from other sources. Georgia is loyal.

A. H. B.

A PARADOX

Leaders in medical science are under indictment by a United States Grand Jury; yet they offer their services for the National Preparedness Program.

On December 20, 1938, the United States Government instituted proceedings against the American Medical Association and some of its individual members high in the councils of organized medicine. Indictments were secured from a District of Columbia Grand Jury, branding as lawbreakers not only the American Medical Association and some of its component societies, but twenty-

one of our leading citizens—men whose lives have been spent alleviating human suffering, serving their profession, their communities and their nation. These men must appear before the bar of justice as common lawbreakers. Can one imagine such a situation?

When these proceedings were instituted the world was at peace. Few suspected that in this generation there would occur a war of sufficient magnitude to involve the whole world. However, the shadow of Hitlerism, like that of a gaunt wolf, was stretching westward over Europe and the Nazi regime was spending the unprecedented sum of more than a hundred billion dollars to crush and destroy civilized humanity and bring it under the terrible servitude of a dictator's whims. In September, 1939, the storm broke. Another world war began.

It soon became apparent that Hitler had designs on the Western Hemisphere. The United States, the richest and most powerful nation on earth, was not prepared. Procrastination and faith in European treaties had induced us to allow our Army to disintegrate and our air force to lag far behind those of other nations. Our Navy was inadequate to defend our farflung coastlines. Washington awoke and sounded a call for every department of American life to help in a gigantic preparedness program.

Organized medicine, the strongest arm of national defense, was under indictment. Could it be called into action?

Let us review for a moment what medical science as represented by the American Medical Association has meant to the American people during the past forty years. Yellow fever, Asiatic cholera, and bubonic plague have been eliminated. Diphtheria, scarlet fever, tuberculosis, typhoid fever, tetanus, and dysentery have been brought under control. Malaria, pellagra, sprue, hookworm and many other scourges that destroy thousands of lives, produce untold human suffering and cost the nation millions of dollars are fast being eliminated.

Until the first World War more soldiers had died of epidemic and preventable disease than from battle wounds, but during

the past forty years medical science has developed measures to protect armies from those dread epidemics that decimated them and decided the fate of empires. We are told by a Bible historian that "the angel of the Lord went forth and smote in the camp of the Assyrians a hundred and four score and five thousand (soldiers) and when they arose early in the morning, behold they were all dead corpses." We do not know what weapon the angel used. We do know that the main Assyrian army was encamped on the southern border of Palestine from which it expected to invade Egypt as soon as Jerusalem was destroyed. So it requires little imagination to believe that the soldiers, weakened by the unsanitary condition of their encampment, the foul air of the ill-selected site, and the heat of the desert, fell an easy prey to one of the epidemics so frequent in ancient times. At any rate, the Assyrian army was destroyed by a great epidemic! And bacteria are as virulent now as they were seven hundred and twenty-two years before Christ. But modern medicine, led in America by the American Medical Association, has made such a catastrophe almost impossible.

To measure our progress we have only to contrast conditions during the War Between the States, the Spanish-American War, and the World War. In the first of these 1 soldier in every 28 had typhoid fever; in the second 1 in every 13.5; in the last named war only 1 in every 2,635. What a triumph for medical science as sponsored by the American Medical Association.

Suppose, then, that the indicted American Medical Association and its officers and leading members should have held aloof from the great defense program of 1940. God only knows what would have happened to a great organization under present-day rapid transit conditions. But the American Medical Association and its leaders brushed aside the sting of indictment and offered their whole-hearted cooperation to the Government. A resolution prepared by the Board of Trustees early during the New York meeting of the Association in June, 1940, was unanimously endorsed by its House of Delegates. It created a committee

"to establish and maintain contact and suitable relations with all governmental agencies . . . in both civil and military aspects so as to make available at the earliest possible moment every facility that the American Medical Association can offer . . . for the maintenance of American Democracy." It further approved the expenditure of its funds necessary for the compilation of information relative to the physicians who can be made available to the Government.¹ That survey is now nearing completion.

It was right that the American Medical Association should have so offered its services. We commend the Association for its quick response in this national emergency. The whole profession, collectively and as individuals, stand for the American way of life and its protection by every skill at our command. But the question is inevitable: Should persecution be the reward of loyalty?

J. L. CAMPBELL, M.D.

1. J. A. M. A., July 20, 1940.

RESOLUTION ADOPTED BY COMMITTEE ON MEDICAL PREPAREDNESS OF AMERICAN MEDICAL ASSOCIATION JULY 19, 1940

Whereas, The maintenance of the health of the nation is fundamental to its welfare; and

Whereas, The education and training of medical personnel requires long periods of time and special selection of men and women qualified to undertake such study; and

Whereas, It is necessary for such purposes to maintain continuous education of medical students; therefore be it

RESOLVED, That the Committee on Medical Preparedness of the American Medical Association requests the National Defense Commission, the military and naval services, the United States Public Health Service and the Congress, in preparing for the conscription of personnel, to provide for the continuation of medical education and for exemption from conscription of all medical students and interns in accredited and approved institutions.

RESOLUTION ADOPTED BY COMMITTEE ON MEDICAL PREPAREDNESS OF AMERICAN MEDICAL ASSOCIATION JULY 19, 1940

Whereas, The maintenance of the health of the workers in industry is essential to the defense program of the country; and

Whereas, The prevention of unnecessary illness of workers in industry is necessary to insure

uninterrupted production of essential materials; and

Whereas, There exists a shortage in the number of physicians, chemists, mechanical engineers and other professional groups skilled in industrial hygiene; therefore be it

RESOLVED, That the Committee on Medical Preparedness of the American Medical Association recommends to the National Defense Commission that the necessary funds be furnished to the United State Public Health Service to provide the necessary training of physicians, chemists, mechanical engineers and other professional personnel in order to cope with the industrial hygiene problem in the present national emergency.

COMMITTEE ON MEDICAL PREPAREDNESS

The Committee on Medical Preparedness was created by the House of Delegates of the American Medical Association to cooperate with the National Defense Commission, the Army and Navy Medical Corps, the United State Public Health Service and all other federal agencies in preparing our nation medically to meet any emergency. The functions of the Committee include the following activities:

1. Meetings devoted to consideration of problems involved in providing medical personnel for military, naval and civilian needs.

2. Consideration of the provision of medical personnel for physical examinations, particularly of young men who are conscripted for military service, young men assigned to vocational training, persons on relief and those concerned with war industries.

3. Consideration of economic problems including financial arrangements, leaves of absence, part-time service and other factors associated with civilian medical services.

4. To maintain contact and to represent the Association in conferences with the Surgeons General of the Army, Navy and Public Health Service and, when necessary, with other governmental agencies.

5. To maintain contact with the state chairmen on medical preparedness.

6. To encourage and coordinate the activities of the several state chairmen for the Committee on Medical Preparedness.

7. To formulate instructions for the guidance of state chairmen.

8. To review and to approve or disapprove recommendations received from state chairmen.

ACTIVITIES OF STATE CHAIRMEN AND COMMITTEES ON MEDICAL PREPAREDNESS

The functions of the state chairmen and the state and territorial committees on medical preparedness are an extension of the functions initi-

ated and developed by the Committee on Medical Preparedness of the American Medical Association. The national Committee on Medical Preparedness includes representatives located in the several Army Corps Areas and Naval Districts. The state chairmen for the Committee on Medical Preparedness maintain contact with other state chairmen in their vicinities through the Corps Area representative of the national Committee and maintain contact also with the headquarters office of the American National Association, which acts as headquarters for the national Committee on Medical Preparedness.

The functions of a state chairman include the following:

1. Contact with and coordination of the activities of state, county and district medical societies.
2. Cooperation with county medical societies in securing completion and return of the questionnaire on personal information.
3. To establish mechanisms for securing supplementary information to the questionnaire when necessary.
4. To organize a state or territorial committee on medical preparedness to be composed of the president and the secretary of the constituent state or territorial medical association, the state chairman for the Committee on Medical Preparedness and ex officio the member of the Committee on Medical Preparedness of the American Medical Association within whose Corps Area the state or territory is located and such other members as this group may select.
5. To assist in the organization of county committees on medical preparedness.
6. To invite local and state health authorities to participate in the work of the program particularly in the matter of civilian health.
7. To arrange for the dissemination of information on medical preparedness to the groups that are concerned with any particular matter.
8. To assist in the verification of the qualifications of physicians desired for service in the Army, industry, special physical examinations and other special work necessary for national defense.
9. To report to the Committee on Medical Preparedness a list of the names of physicians from each county of the state whose services are believed to be necessary for the maintenance of civilian health and who should, in the opinion of the state committee on medical preparedness, be exempt from military service.

EDGAR H. GREENE, *State Chairman*,
478 Peachtree St., N. E., Atlanta.

RESOLUTION ADOPTED BY COMMITTEE
ON MEDICAL PREPAREDNESS OF
AMERICAN MEDICAL ASSOCIATION
JULY 19, 1940

Whereas, There are many organizations in-

terested in health and medical preparedness: and
Whereas, These organizations represent various specialties interested not only in the prevention but the treatment of disease: and

Whereas, Many recommendations and plans for medical preparedness will be made by these groups; therefore be it

RESOLVED, By the Committee on Medical Preparedness of the American Medical Association that we recommend to the President of the United States and to the National Defense Commission the immediate appointment of a medical coordinator of the activities of all medical service related to the national defense program.

AMERICAN RED CROSS PLANS NATIONWIDE
ENROLLMENT OF VOLUNTARY
BLOOD DONORS

The American Red Cross, acting at the request of the Surgeon-General of the U. S. Army, today announced experimental plans for the promotion of a nationwide corps of volunteer blood donors which would become part of the national defense program, when and if needed.

Chairman Norman H. Davis stated that the plan would be to make available blood plasma to the U. S. Army Medical Corps in the event of emergency. For the past four years twelve Red Cross chapters have been furnishing whole blood from volunteers to hospitals for civilian use. The new program will be patterned along similar lines, using plasma instead of whole blood.

The American Red Cross also has under consideration a parallel project to furnish voluntary plasma requested by the British Red Cross for the treatment of war victims.

Details of this project are being studied. Two possible plans are being explored. Under the first the American Red Cross would gather voluntary plasma in the United States and fly it to Europe for transfusion purposes. Under the second plan, the American Red Cross would send equipment and technicians to England to gather the plasma on the spot.

For the domestic program, a preliminary study involving 1,300 Red Cross volunteers in four cities throughout the country will be conducted under the direction of a special committee appointed by the National Research Council.

Dr. William DeKleine, National Medical Adviser of the Red Cross, met in Ann Arbor, Michigan, with Dr. Cyrus E. Sturgis of the University of Michigan and with the Board of Directors of the Ann Arbor Chapter to lay plans for this enrollment project.

Dr. DeKleine will hold similar conferences with the three other blood specialists named by the Research Council. They are Dr. Everett Plass, of the University of Iowa; Dr. Alfred Blaylock, of Vanderbilt University, and Dr. Max Strumia of Bryn Mawr Hospital, Philadelphia.

The proposed plan for collecting blood was patterned after the blood bank idea except that plasma will be used instead of whole blood. Plasma is whole blood from which the red blood cells have been separated by

centrifugal force, and is equally satisfactory in the treatment of hemorrhage and shock.

"Plasma has many advantages over whole blood. The latter can be kept only a few days because the red blood cells deteriorate very quickly. Plasma can be kept indefinitely, does not require typing, and can be moved about freely without any damage to it. It can be transported any distance and is therefore applicable in military as well as civilian practice.

"Preliminary studies must be made to perfect methods of collecting, storing and administering plasma under conditions comparable to war-time emergency. Blood for this initial study will be furnished by volunteers at the various hospitals where members of the Research Committee are regularly employed. The plasma collected will be stored and used as emergencies arise at these hospitals."

After these preliminary investigations have been completed, the Red Cross will then work out with the medical department of the Army plans for enrolling prospective donors in cities throughout the country where collecting centers will be established. In the event of an emergency, the Red Cross could start delivering plasma within ten days after enrollment is completed. Blood so collected will be pooled in large sterile containers, to simplify storage, in sufficient quantities to meet the emergency needs for treating the wounded.

Recruiting donors will be conducted by a special chapter blood transfusion committee which will include leading local physicians. The technical phases of the project will be performed by the medical staff of the cooperating hospitals. They will examine the prospective volunteers, make the necessary blood tests as well as doing the actual transfusions.

This blood transfusion project will be another step taken by the Red Cross in its preparedness program for national emergencies. It will function in close co-operation with the medical departments of the military forces.

A MEDICAL BOOK

Recently Dr. Allen H. Bunce, of Atlanta, generously presented to the A. W. Calhoun Medical Library of Emory University a most interesting book entitled, "The Planters and Mariners Medical Companion." Written by James Ewell of Savannah, Georgia, and published in 1807, this volume of 316 pages, including a dispensatory, was designed, as outlined in the preface, "to treat in the most clear and concise manner almost every disease to which the human body is subject: to give their common names and surest symptoms, to point out the causes whence they originate with the most approved method of treatment and, lastly, to prescribe the suitable regimen and means of prevention." Though brown and mellow with age, this little book is in a remarkable

state of preservation and there is not a word which cannot be read with ease.

The style and diction are of another day and in themselves are fascinating but, of course, more interesting to the reader is a comparison between medicine of that time and the present. One is struck with the clinical acumen exhibited by the author in describing the signs and symptoms of disease. Treatment for each condition is detailed and a full regimen is outlined. There are 117 diseases and treatments discussed, and as a large part of this number deals with fractures, dislocations, wounds and the like, the actual number of diseases then known was exceedingly small. However, a great many conditions are covered under a single heading, i.e., fevers, tumors, poisons, etc. In the entire volume there is only one specific disease described which is, of course, worms. The symptomatology for each condition is nicely given in highly descriptive wording. For instance, under fevers, which are classified as either intermittent or remittent, a typical description of an intermittent fever (probably malaria) is given: "The ague commences with weakness, frequent stretching and yawnings, succeeded by sensations of cold in the back and extremities, which increases until the limbs as well as the body become agitated with frequent and violent stirring. This continues for some time, during which a violent pain of the head and back and a sensation resembling stricture across the stomach frequently distress the patient; and the sense of coldness is so great that no endeavors to obtain warmth are of the least avail. These symptoms, subsiding by degrees, give way finally to warm flushings which increase until redness and heat, much greater than natural, are extended over the whole body; the patient at length burning with such extreme heat as to be now as solicitous for the refreshing sensation of cold as he was before anxious to instigate its violence. Then it slowly abates until it ceases. If the fit returns every day it is termed a quotidian, if every third day, a tertian, if every fourth day, a quartan." The causes are listed as twofold: "The effluvia which arise from marshes or moist ground acted on by heat—secondly, cold,

especially when accompanied by moisture."

In the main the theories as to the causes of disease were evolved around the humeral doctrines. Thus "noxious effluvia," "miasmatic vapors" and "acrid exhalations" were frequently listed as the direct causes of inflammatory states. In addition, disordered function of a single system or group of organs was blamed. For example: "The pleurisy, like other inflammatory diseases, proceeds from whatever obstructs the perspiration; as exposing the body to the cold when overheated. It may likewise be occasioned by whatever increases the circulation of the blood, as violent exercise or an imprudent use of ardent spirits."

Though the germ theory of disease was hinted at in the middle sixteenth century, it was not until the latter part of the eighteenth that living microorganisms were said by Carl Von Linne, a Swedish physician, to be the direct causative agent in disease. It is small wonder then that Dr. Ewell failed to mention in the *Medical Companion* bacteria as the etiologic agent in production of disease. Jenner published his discovery of immunity to smallpox through vaccination in 1798 and it will be remembered that a storm of skepticism arose in the succeeding few years as to the efficacy and safety of the procedure. Yet to my surprise a complete description of vaccination against smallpox was given with a defensive history of the discovery for the doubting reader. By and large the etiologic factors given were logical and would be acceptable to the average layman of today.

The real artistry of the physician of that period can be best appreciated by studying the treatment prescribed. To be sure many things were done which we now know would surely result in disaster. Chief among these was the almost routine use of bleeding. This was carried out in almost every inflammatory condition. The amount of blood withdrawn at each bleeding was generally from one-half to one pint and repeated every two or three days as needed. Purgation was also invariably advised. Great stock was placed in the copious use of mercury usually to the point of salivation and a large variety of infusions, decoctions and tinctures were given. These latter were mostly made from

treebark, herbs, etc. It is interesting to note that tincture of steel rust was said to be one of the best tonics. Drugs, bleeding, purgation, blistering and the like, though, were only a small part of the care of the patient. Cheery surroundings, careful hygiene, and improving the mental outlook of the patient were always stressed, and it can be safely assumed that Dr. Ewell's patients received bountiful care.

Pathologic discussions were entirely lacking but there would hardly be a place for pathology in a book of the *Medical Companion* type.

An interesting sidelight of the volume is the appearance of an occasional incident of historical import. The last illness of Washington is given in detail. The death of General Greene of Revolutionary fame is also recounted.

An entire chapter is given over to "admonitory hints to ladies." Tight corsets, cosmetics, etc., are warned against and an urgent plea for a more active life for women is entered. This section alone is enough to make the book worthwhile.

The dispensatory is replete with directions for the preparation of medicines and gives a dosage table, and there is also a glossary of medical terms (which stood me in good stead).

In short, Dr. Bunce and the Calhoun Library have provided for us in the *Medical Companion* the rare opportunity to get a first-hand information as to the status of medicine as practiced then and an insight of the great advances which have taken place and which we now accept so blandly. For an evening of delightful entertainment I cannot recommend any better source than the *Medical Companion*.

BERNARD P. WOLFF, M.D.

As the processes of reproduction are better and more generally understood by the public, physicians may expect to be consulted more frequently concerning semiadoption, William H. Cary, M.D., New York, declares in *The Journal of the American Medical Association* for June 1 in a report of his experience with artificial impregnation in the treatment of sterility.

He reports seventeen cases in which the husband was infertile and the wife was inseminated with a donor specimen from one to six times with nine successes and eighteen additional cases in which the husband's specimen was instilled a total of thirty-seven times with four pregnancies.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

STATE PLAN FOR CANCER TISSUE DIAGNOSTIC SERVICE

Beginning June 1, 1940, we find that it is necessary that certain changes be made in the method of handling tissue for diagnosis in the Cancer Control Service, in order to carry on the work and to assure efficient and quick diagnosis.

1. It is recommended that this laboratory be discontinued temporarily, due to the relatively small number of specimens which are being received and the consequently high cost of this service.

2. In order that this service may be more economically carried out, it is proposed that tissue diagnoses be made on those cases previously accepted for state-aid by the Georgia Department of Public Health in those clinical laboratories in the state engaged at the present time in this type of work. The price paid for tissue diagnosis will be \$3.00 for each specimen. This fee is in keeping with the recommendations of the Cancer Commission of Georgia. Under this plan the surgeon in charge of the clinic could forward the tissue to the laboratory of his choice and the fee would be paid by the state on cases previously accepted for state-aid. Fees will not be paid for cases not previously approved by the State Department of Public Health. Should a case arise in which the patient had not been approved by the state for state-aid, responsibility for payment will be the obligation of the physician forwarding the specimen.

3. It is hoped that consultation on uncertain diagnosis will be freely employed between existing laboratories and that when further consultation is necessary that specimens will be forwarded by air mail, if necessary, to the National Institute of Health. No fees will be paid for consultation service.

4. It will be necessary under the plan for the examining laboratory to make out pathological reports in triplicate and forward one to the treatment center, one to the State Department of Public Health and retain one for their own file. Reports should be made within four days.

5. Payment will be made on a monthly basis. Itemized bills listing each examination and other pertinent data must be mailed in order to reach the State Department of Health not later than the 5th of the succeeding month. Forms for this purpose will be supplied by the State Department of Health. Bills should be made out in triplicate and two copies forwarded to the State Department of Health and the remaining

copy retained in the files of the participating laboratory.

6. Specimens will be mailed to the participating laboratory in containers supplied by the State Department of Public Health. Specimen containers will be sent on request to treatment centers desiring them. All tissues, whether biopsy specimens or tissue suspected of being malignant, removed at operation, must be placed immediately in a 10 per cent formalin solution and sent at once to a designated pathologist who has been approved and appointed by the State Department of Health.

7. A brief case history with clinical diagnosis, a statement designating the organ or part of the body from which the tissue was obtained, and a declaration stating that the individual has been accepted for state-aid must accompany the specimen.

8. When the specimen is received the pathologist must date the package and proceed to prepare the tissue for microscopic examination, using a standard procedure for paraffin embedding and blocking; standard stains to be used. The block must be labeled with a serial number and the initial of the examining pathologist. The slide must bear the same serial number and initial and be retained by the pathologist. All blocked tissues and a slide of the tissue must be placed in containers and filed within 60 days with the State Department of Health.

9. Surgical pathologists eligible for this work must be members of the Georgia Association of Pathologists or certified by the American Board.

10. All pathologists designated to receive tissue for examination must signify their willingness to cooperate by signing a copy of these rules and regulations.

11. It is understood that under this plan all cases approved for state-aid will be referred by the private physician to the treatment center indicated by the State Department of Public Health for diagnosis, biopsy, and treatment.

C. D. BOWDOIN, M.D., *Director*,
Division of Preventable Diseases.

THE A. M. A. PUBLISHES SIXTEENTH EDITION OF AMERICAN MEDICAL DIRECTORY

The Sixteenth Edition of the American Medical Directory contains the names of 195,104 physicians. This is an increase over the 1938 volume of 6,188 names. Because of death, 7,586 names were dropped from the book; the names of 13,798 physicians, new graduates and physicians coming from foreign countries have been added.

WOMAN'S AUXILIARY : OFFICERS 1940-1941

President—Mrs. H. G. Banister, Ila.	Recording Secretary—Mrs. Loren Gary, Jr., Shellman.
President-elect—Mrs. Lee Howard, 625 East 44th Street, Savannah.	Treasurer—Mrs. W. Bruce Schaefer, Toccoa.
First Vice-President—Mrs. W. W. Chrisman, 112 Corbin Avenue, Macon.	Corresponding Secretary—Mrs. L. S. Patton, Athens.
Second Vice-President—Mrs. Fred Rawlings, Sandersville.	Parliamentarian—Mrs. J. E. Penland, Waycross.
Third Vice-President—Mrs. D. Lloyd Wood, Dalton.	Historian—Mrs. W. A. Selman, 760 Penn Ave., N. E., Atlanta.
Press and Publicity—Mrs. J. Harry Rogers, 134 Huntington Road, N. W., Atlanta.	

POST-CONVENTION MEETING

The executive board of the Woman's Auxiliary to the Medical Association of Georgia was called to order by the newly-installed president, Mrs. H. G. Banister, at DeSoto Hotel, Savannah, April 25, 1940.

The Student Loan Fund committee was elected as follows: Mrs. L. W. Williams, Savannah, chairman; Mrs. E. R. Harris, Winder; Mrs. George Fuller, Atlanta. The page ribbons were presented to the Auxiliary by Mrs. Eustace Allen. It was voted to send a note of sympathy to Mrs. Elliott Wilson on the loss of her daughter. On motion of Mrs. Ralph Cheney it was decided to appropriate \$10 each year for the expenses of one guest speaker.

Mrs. James N. Brawner stated that the rules governing the award of the Mrs. James N. Brawner cup will be simplified. The president asked if the body would approve of one person to serve as chairman of exhibit and scrapbook committees. It was voted to have a committee (appointed by president) investigate and confer with Mrs. J. Bonar White.

MRS. H. G. BANISTER, *President*.

MRS. LOREN GARY, JR., *Secretary*.

ADVISORY MEETING

The executive board of the Woman's Auxiliary to the Medical Association of Georgia met with its advisory committee at the Henry Grady Hotel in Atlanta on July 9, 1940. Dr. James N. Brawner, of Atlanta, chairman, presided.

Mrs. H. G. Banister, of Ila, president of the Auxiliary, presented her objectives for the year. These were discussed and approved by the Advisory Committee. Mrs. Banister then called for reports from standing committees. Reports from the following chairmen were submitted and approved: Mrs. Lee Howard, Savannah, Organization; Mrs. W. W. Chrisman, Macon, Health Education; Mrs. H. M. Kandel, Savannah, Public Relations; Mrs. J. Harry Rogers, Atlanta, Press and Publicity; Mrs. G. L. Loden, Colbert, Health Films; Mrs. F. M. Barfield, Atlanta, Doctor's Day; Mrs. Lloyd Wood, Dalton, Scrapbook, and Mrs. Lehman Williams, Savannah, Student Loan Fund.

Plans were made to sponsor the writing of health plays. Dr. Brawner offered a prize of \$10

for the best play, full details of the contest to be announced later.

Present from the Advisory Committee were Dr. J. N. Brawner, Atlanta; Dr. H. G. Banister, Ila; Dr. Ralph Chaney, Augusta; Dr. Lloyd Wood, Dalton; and Dr. Eustace Allen and Dr. C. C. Aven, Atlanta.

Present from the Auxiliary were Mrs. H. G. Banister, Ila; Mrs. Lee Howard, Savannah; Mrs. W. W. Chrisman, Macon; Mrs. H. M. Kandel, Savannah; Mrs. J. Harry Rogers, Atlanta; Mrs. G. L. Loden, Colbert; Mrs. F. M. Barfield, Atlanta; Mrs. Lloyd Wood, Dalton; Mrs. L. W. Williams, Savannah; Mrs. W. R. Dancy, Mrs. J. C. Metts, Savannah; Mrs. C. W. Roberts, Atlanta; Mrs. George Williams, Atlanta; Mrs. C. J. Roper, Jasper; Mrs. Ralph Chaney, Augusta; Mrs. J. E. Griffith, Rockmart; and Mrs. Loren Gary, Jr., Shellman.

MRS. LOREN GARY, JR., *Secretary*.

CHAIRMEN APPOINTED

Mrs. H. G. Banister, of Ila, recently installed as president of the Woman's Auxiliary to the Medical Association of Georgia, announces the following committee chairmen who will serve with her during the year:

Mrs. Lee Howard, of Savannah, President-elect and Chairman of Organization; Mrs. W. W. Chrisman, of Macon, first vice-president and chairman of Health Education; Mrs. Fred Rawlings, of Sandersville, second vice-president and chairman of Hygeia, the national health magazine; Mrs. Lloyd Wood, of Dalton, third vice-president and chairman of Scrapbook; Mrs. Harry M. Kandel, of Savannah, Public Relations; Mrs. Stewart Brown, of Royston, Legislation; Mrs. J. Harry Rogers, of Atlanta, Press and Publicity; Mrs. G. L. Loden, of Colbert, Health Films; Mrs. Forrest M. Barfield, of Atlanta, Doctor's Day; Mrs. C. M. Burpee, of Augusta, Research in Romance of Medicine; Mrs. Lehman Williams, of Savannah, Student Loan Fund; Mrs. W. M. Cason, of Sandersville, Jane Todd Crawford Memorial; Mrs. Ralph Chaney, of Augusta, Revisions; Mrs. J. Bonar White, of Atlanta, Archives; Mrs. J. P. Holmes, of Macon, Exhibits; Mrs. A. J. Mooney, of Statesboro, Memorials; Mrs. Eustace Allen, of Atlanta, the Mrs. James N. Brawner Trophy; and Mrs.

J. R. McMichael, of Quitman, the White Exhibit and Scrapbook Awards.

HEALTH MEETING

Dr. and Mrs. H. G. Banister entertained recently at a luncheon in Atlanta, the occasion assembling a group of members of the Advisory Committee of the Medical Association of Georgia and committee chairmen from the Auxiliary, who met to work out plans for the Auxiliary's health program for the year. The feature of the meeting was the talk by Dr. W. W. Bauer, of Chicago, chairman of the Public Health Committee of the American Medical Association, who presented instructive suggestions for the work to be undertaken in Georgia.

Others attending the luncheon were Miss Fannie B. Shaw, of the Georgia Department of Health; Dr. J. C. Patterson, of Cuthbert, president of the Medical Association of Georgia; Dr. Edgar D. Shanks, of Atlanta, secretary-treasurer of the Medical Association of Georgia; Dr. James N. Brawner, of Atlanta, chairman; Dr. Eustace Allen, of Atlanta, and Dr. C. C. Aven, of Atlanta, members of the Advisory Committee; Mrs. Lee Howard, of Savannah, president-elect of the Auxiliary; Mrs. W. W. Chrisman, of Macon, first vice-president and chairman of Health Education; Mrs. Harry M. Kandel, of Savannah, chairman of Public Relations; Mrs. Eustace Allen, of Atlanta, immediate past president; and Mrs. J. Harry Rogers, of Atlanta, chairman of Press and Publicity.

HABERSHAM COUNTY

The Woman's Auxiliary to the Habersham County Medical Society met in May at the home of Dr. Crenshaw at the State Sanitorium at Alto. In the absence of the president, Mrs. Cyrus Sharp, business was dispensed with and the time devoted to an informal discussion of the recent annual state convention held in Savannah. Mrs. Bruce Schaefer, of Toccoa, gave an interesting account of the convention. Mrs. J. A. Thomas, the hostess, served delightful refreshments during the social hour. Those present were Mrs. Horace Crow, Mrs. F. C. Wheelchel, both of Alto; Mrs. Bruce Schaefer, Toccoa; and Mrs. O. N. Harden, Cornelia.

RANDOLPH COUNTY

An address by Dr. J. C. Patterson, president of the Medical Association of Georgia, on "The Relationship of the Woman's Auxiliary to the Medical Association" featured the April meeting of the Randolph County Medical Society and that of the Woman's Auxiliary. Mrs. W. G. Elliott and Mrs. J. C. Patterson served as joint hostesses at the beautiful home of Mrs. Elliott in Cuthbert. Mrs. Franz Martin read an interesting paper on the life of Dr. Fred Patterson, distinguished and beloved Cuthbert physician.

Mrs. Loren Gary, Jr., presided and reports were heard from Mrs. Franz Martin, Mrs. J. C. Patterson, Mrs. W. G. Elliott, Mrs. W. W. Crook, Mrs. T. F. Harper and Mrs. Loren Gary. Master Gus Elliott, Jr., gave a delightful reading, *Elmer Brown*. During the social hour, the hostesses, assisted by Mrs. Edward Sealy, Mrs. B. Y. Jamerson and Mrs. Fred Gay served delicious refreshments. Misses Ann Patterson and Sara Crook presided over the punch bowl at the beautifully appointed table in the dining room.

SIXTH DISTRICT

The Woman's Auxiliary to the Sixth District Medical Society met at the nurses' home in Milledgeville on June 27, 1940; the doctors also held their meeting on this date. About 100 doctors and their wives from throughout the district were present. Mrs. Y. H. Yarbrough, of Milledgeville, president of the Auxiliary, presided over the business meeting of her group. Mrs. H. G. Banister, of Macon, president of the Woman's Auxiliary to the Medical Association of Georgia, and Dr. J. C. Patterson, of Cuthbert, president of the Medical Association of Georgia, each brought interesting messages to the Auxiliary members. Later Mrs. Max Noah presented delightful readings. In the evening, Auxiliary members joined the doctors for a banquet at the Baldwin Hotel.

FULTON COUNTY

Mrs. Olin S. Cofer was installed as president of the Woman's Auxiliary to the Fulton County Medical Society at the June meeting held at All Saints' Episcopal church in Atlanta. Other officers who will serve with Mrs. Cofer are Mrs. Richard E. Newberry, president-elect; Mrs. Murdock Euen, first vice-president; Mrs. J. J. Clark, second vice-president; Mrs. J. Harry Rogers, recording secretary; Mrs. O. H. Matthews, corresponding secretary; Mrs. John Turner, treasurer; Mrs. Joseph Yampolsky, parliamentarian; Mrs. A. B. Anderson, historian; Mrs. T. J. Collier, auditor. Before the installation, Mrs. Forrest M. Barfield, retiring president, gave an excellent report of the past year's activities and was given a rising vote of thanks by members for her excellent leadership. Later luncheon was served with Mrs. Edgar Shanks and Mrs. Hal Davison, co-chairmen.

Mrs. Cofer appointed the following committee chairmen: Membership, Mrs. Murdock S. Euen; Hospital, Mrs. Stacy Howell and Mrs. W. C. Waters; House and Grounds, Mrs. J. R. Childs and Mrs. Eugene Daniel; Entertainment, Mrs. Edgar H. Greene and Mrs. Leland Baggett; Decoration, Mrs. H. H. Askew and Mrs. Hal Davison; Courtesy, Mrs. W. W. Anderson and Mrs. Dan Y. Sage; Program, Mrs. Stephen Brown; Health Films, Mrs. Jeff Richardson and Mrs. J. T. Floyd; Scrapbook, Mrs. H. Cliff Sauls.

and Mrs. Edward S. Wright; Telephone, Mrs. J. J. Martin and Mrs. Calvin Stewart; Public Relations, Mrs. M. T. Edgerton; Budget, Mrs. Ross Brown and Mrs. J. W. Landham; Jane Todd Crawford Memorial, Mrs. Forrest M. Barfield; Romance of Research of Medicine, Mrs. Walker L. Curtiss; Ways and Means, Mrs. Dewey T. Nabors and Mrs. Walker Jernigan; Health Education, Mrs. W. M. Dunn; Cancer Education, Mrs. H. S. Phillips, Mrs. Leo Daly and Mrs. Linton Smith; Remembrance, Mrs. Tom Goodwyn; Publicity, Mrs. J. Harry Lange and Mrs. George Williams; Red Cross, Mrs. T. I. Willingham and Mrs. Don Cathcart; Legislation and Citizenship, Mrs. C. W. Roberts; Revision of By-Laws, Mrs. Eustace Allen and Mrs. J. Bonar White; Hygeia, Mrs. F. C. Holden; Doctor's Day, Mrs. B. L. Shackelford; Hospitality, Mrs. Charles E. Rushin and Mrs. Howard Hailey; Periodical Review, Mrs. Clinton Reed; Year Book, Mrs. J. J. Clark; Music, Mrs. Luther Byrd and Mrs. Mason Lowance; and Chaplain, Mrs. W. A. Selman, Mrs. James N. Brawner and Mrs. T. Boling Gay.

The new officers were elected at the May meeting of the Auxiliary, which was held at the home of Mrs. F. M. Barfield on Andrews Drive in Atlanta. Reports of the recent state convention in Savannah were given by Mrs. Olin Cofer and Mrs. Dan Y. Sage. Mrs. Linton Smith, chairman of the Cancer Committee, told of the two meetings arranged by the Auxiliary and of assistance being given to the Woman's Field Army for the Control of Cancer. Mrs. J. Harry Lange presented an interesting program on Jane Todd Crawford. Later a delightful buffet luncheon was served, with Mrs. Barfield being assisted by Mrs. F. C. Holden and Mrs. Samuel W. Perry, co-chairmen, and their committee.

NEWS ITEMS

THE FIRST DISTRICT MEDICAL SOCIETY met at Hotel DeSoto, Savannah, July 17. Speakers on the scientific program included the following: Dr. P. H. Smith, Savannah; Dr. L. Fielding Lanier, Sylvania; Dr. E. S. Osborne, Savannah; Dr. Lee Howard, Savannah; Dr. H. T. Compton, Savannah; Dr. J. H. Pinholster, Savannah; Dr. J. Reid Broderick, Savannah; Dr. A. J. Mooney, Statesboro; Dr. J. C. Metts, Savannah; Dr. R. C. Franklin, Swainsboro. Dr. Allen H. Bunce, Atlanta, president-elect of the Association, spoke on the *Program of the American Medical Association*. Officers of the society elected were: Dr. E. Carson Demmond, Savannah, president; Dr. J. M. Byne, Waynesboro, first vice president; Dr. R. L. Cone, Statesboro, second vice president; Dr. Chas. Usher, Savannah, re-elected secretary-treasurer. The next meeting will be held at Swainsboro.

THE THIRD ANNUAL MEETING OF THE GEORGIA INDUSTRIAL SURGEONS ASSOCIATION will be held at Hotel Ansley, Atlanta, September 25, 1940. Officers of the Association are: Dr. R. L. Rhodes, Augusta, president;

Dr. R. E. Newberry, Atlanta, vice president; Dr. C. F. Holton, Savannah, chairman of trustees; Dr. J. W. Simmons, Brunswick, secretary.

DR. W. P. SMITH, Bowdon, recently celebrated his 74th birthday after practicing medicine for 49 years. A barbecue dinner was served. Among many other friends present were: Dr. and Mrs. G. W. Hammond, Newnan; Dr. O. R. Styles and Dr. L. E. Wilson, both of Bowdon.

DR. CRAIG BARROW, Savannah, retired from the Board of Trustees of the Georgia Infirmary, Savannah, after an unbroken service of more than thirty-six years. The individual members of the Board presented a silver tray to him as a token of appreciation for his excellent service. Dr. Thomas J. Charlton is superintendent of the Infirmary.

DR. RICHARD BINION, Milledgeville, has been appointed local surgeon for the Central of Georgia Railway. He has served for twenty years as local surgeon for the Georgia Railroad.

DR. R. BRUCE LOGUE announces the opening of offices in suite 502 Medical Arts Building, Atlanta. Practice will be limited to internal medicine.

DR. EDGAR D. SHANKS, Atlanta, secretary-treasurer of the Medical Association of Georgia, has been appointed on the Public Service Advisory Panel of the National Broadcasting Company, Inc., Radio City, New York, N. Y.

DR. MONTAGUE L. BOYD, Atlanta, was elected president of the American Association of Genito-Urinary Surgeons at its recent meeting held in Skytop, Pa.

DR. EDGAT F. FINCHER announces that Dr. Charles E. Dowman is now associated with him in the practice of neurologic surgery with offices in the Medical Arts Building, 384 Peachtree Street, N. E., Atlanta.

A JOINT COMMITTEE of physicians and pharmacists on U. S. P. and N. F. program. Physicians on the committee are: Dr. Luther M. Vinton, Atlanta, chairman; Dr. William Hutto, Dr. Needham Bateman, and Dr. J. Harris Dew, all of Atlanta, and Dr. A. G. Thomason, East Point. Pharmacists on the committee are: L. N. Camp, chairman; T. C. Marshall, J. T. Selman, T. T. Crews, and L. R. Brewer, all of Atlanta. The purpose of the program is to reduce the cost of prescription medicine by bringing back into more common use, U. S. P. and N. F. preparations.

If interested in a location to practice medicine, write the Secretary-Treasurer.

OBITUARY

Dr. Benning M. Kennon, McRae; member; Emory University School of Medicine, Emory University, 1889; aged 78; died on June 29, 1940, after a long illness. He was a native of Floyd County and moved to Hoboken where he lived until he began the practice of medicine at McRae where he practiced for fifty years. Dr. Kennon was a prominent citizen and had many friends. Surviving him are his widow, three daughters: Mrs. Hatcher.

Macon; Mrs. J. L. Clements, Ft. Myers, Fla.; Miss Allie Kennon, Ft. Myers; four sons: Dr. Charles L. Kennon, Miami, Fla.; B. M. Kennon, Jr., Russell and Howard Kennon, all of McRae. Rev. W. F. Burford and Rev. W. A. Huckabee officiated at the funeral services conducted at the home.

Dr. John C. Luke, Ocilla; Louisville Medical College, Louisville, Ky., 1893; aged 71; died June 30, 1940, at a private hospital in Ocilla. He was born and reared in Irwin County and spent practically all his life there. He practiced medicine in Irwin and adjoining counties for more than forty years. Dr. Luke took an active interest in fraternal orders, civic and religious affairs. He was a member of the F. & A. M., Shrine and the First Baptist Church. Surviving him are one son, J. Clarke Luke, Ocilla; two sisters, Mrs. J. S. Lott and Mrs. Brantley Salter, both of Douglas. Funeral services were conducted at the First Baptist Church. Interment was in the Ocilla Cemetery.

Dr. James Addison Bell, Decatur; Louisville Medical College, Louisville, Ky., 1905; aged 59; died on July 8, 1940, at his home. He practiced medicine in Lithonia for twenty-six years before he moved to Decatur where he practiced until forced to retire on account of ill health. He was a member of the Lithonia Baptist Church. Surviving him are his widow; one son, J. A. Bell, Jr.; five daughters, Misses Blanche, Marilyn and Tutney Bell, Mrs. L. C. Warren, and Mrs. B. H. Dillard. Funeral services were conducted at the Baptist Church by his daughter, Mrs. Dillard, assisted by Rev. Byron Kinnerly. Burial was in the Lithonia Cemetery.

Dr. George Driver Bragaw, Augusta; Georgetown University School of Medicine, Washington, D. C., 1911; aged 55; died on July 1, 1940, at his home. He was a native of Lafayette, Ala. Since 1925 his practice has been limited to work for the U. S. government. He was appointed to practice neuropsychiatry at the Veterans' Administration at Perry Point, Md., in 1925; transferred to Northampton, Mass., in 1934 and assigned to duty in Augusta in 1937. Dr. Bragaw had a pleasing personality and was liked by patients and administrative officers in charge of the Veterans' Administration. Surviving him are his widow, two daughters, Misses Josephine M. and Margaret J. Bragaw; one son, Geo. D. Bragaw, Jr., all of Augusta. Rev. W. M. Barnett officiated at the funeral services held at Grealish, Poteet and Walker Funeral home. Burial was in Fort Lincoln, Washington, D. C. Cemetery.

Dr. R. Earl Evans, Milledgeville; member; Kentucky University Medical Department, Louisville, Ky., 1906; aged 58; died July 8, 1940, at his home. He was a native of Flemingsburg, Ky. Dr. Evans practiced medicine at Gordon for twenty-five years and then moved to Milledgeville where he practiced until his death. He had a wide circle of friends and an extensive practice. Dr. Evans was a member of F. & A. M., Shrine and First Methodist Church. Surviving him are his widow, one son, Frank O. Evans, Milledgeville, attorney; his mother,

Mrs. Frank Evans, Flemingsburg, Ky., one brother, Marvin N. Evans, Flemingsburg, Ky. Dr. A. N. Pierce and Rev. F. H. Harding officiated at the funeral services conducted at the First Methodist Church. Burial was in the City Cemetery.

Dr. Joseph Madison Horne, Finleyson; Vanderbilt University School of Medicine, Nashville, Tenn., 1895; aged 66, died July 6, 1940, at his home. He was a native of Jasper County, Florida. He was a prominent physician of Finleyson and surrounding community. Surviving him are his widow, three daughters, Mrs. J. T. Hammond, Atlanta; Mrs. H. T. Fleeman, Jacksonville, Fla.; and Mrs. M. E. Hardy, Douglas; two sons, J. M. Horne, Jr., Atlanta; and A. P. Horne, Jacksonville Beach, Fla. Rev. J. H. McMichael and Dr. Aquilla Chamblee officiated at the funeral services conducted at the Pope Church at Finleyson. Burial was in Bethlehem Church Cemetery.

Dr. Reuben Pierce White, Mountville; Emory University School of Medicine, Emory University, 1884; aged 80; died at the City-County Hospital, LaGrange, July 18, 1940. He was a native of Troup County. Dr. White had a long and useful career as a practitioner. He was a member of F. & A. M. and the Methodist Church. Surviving him are one daughter, Miss Mabel White, Albany; one son, Pierce G. White, Dania, Fla.; two sisters, Mrs. R. L. Barnes and Miss Lillian White, both of Abbottsford; one brother, E. L. White, Savannah. Rev. H. A. King and Rev. S. A. Dailey officiated at the funeral services conducted at the Mountville Methodist Church. Interment was in the church yard.

Dr. William M. Kemp, Marietta; member; Southern Medical College, Atlanta, 1889; aged 78; died July 28, 1940, after a long illness. He was a native of Cobb County and resided there all his life except one year spent in Heard County practicing medicine. Dr. Kemp was recognized as an able practitioner of obstetrics and pediatrics and did an extensive practice. He was a member of the Cobb County Medical Society, American Medical Association and First Presbyterian Church. Surviving him are his widow, two daughters, Mrs. L. C. Howell, Florence, Ala., and Miss Emily Kemp, Jewell Ridge, Va.; two sons, Henry Kemp, Marietta, and Guy Kemp, Decatur, Ala. Rev. M. O. Sommers officiated at the funeral services conducted at the First Presbyterian Church. Burial was in Mountain View Cemetery.

BOOK REVIEW

The Unseen Plague—Chronic Disease, by Ernest P. Boas, M.D., Chairman, Committee on Chronic Illness, Welfare Council of New York City, Assistant Clinical Professor of Medicine, Cornell University, (J. J. Augustin, Inc., 141 East 29th Street, New York, New York. Price \$2.00).

The problem of the chronically ill is not new but is assuming greater significance and proportions as one's social consciousness is aroused and the lengthening span of life is realized. Since 1901 life expectancy has increased by over 12 years, and with each year added the

number liable to some chronic disabling illness will be multiplied. "Seventy years ago * * * chronic diseases caused only one-fifteenth of all deaths; today they are responsible for as many as one-half. Chronic diseases have become important not alone as causes of death. To an even greater extent they determine a tremendous volume of illness and invalidity * * * with its attendant dislocations of economy and social adjustments."

This reviewer was told by one of his classmates, "A physician will never make a reputation trying to treat chronic diseases." Those who graduated at and soon after the turn of the century have probably lived through the greatest quarter century of progress in the history of medicine; and the results obtained with tuberculosis, syphilis, diabetes mellitus and cancer, to mention only a few, refute my friend's opinion.

The contention expressed by the author that there are too few hospitals available for the proper diagnosis and treatment of chronic diseases is only too well known. Many so afflicted are inmates of almshouses and homes for the aged, and could be helped and made more useful by diagnosis and proper treatment. Our southern investigators have proved this with certain avitaminoses.

The State assumes it as its function to care for the insane, feeble-minded and tuberculous, and in the near future it is very likely that the need for hospitals of a high order dealing with chronic illnesses will be met. The small, readable volume written by Dr. Boas has proven him well qualified to write upon the subject; and his connection with the Montefiore Home has afforded first hand information as to the most modern means of administration, medical needs of the inmates, nursing care, psychotherapy, physiotherapy and occupational therapy. It would pay one interested in this phase of hospital construction and administration to consult this little volume, as well as practitioners of medicine.

Geo. A. TRAYLOR, M.D.

SQUIBB RELEASES SULFATHIAZOLE

Sulfathiazole has been released for sale by E. R. Squibb & Sons, New York, in the form of 0.5 gram scored tablets for oral dosage and in crystals for compounding prescriptions and for determination of blood concentration.

Sulfathiazole has received extensive clinical trial and is a noteworthy advance in the chemotherapeutic treatment of pneumococcal and staphylococcal infections. It is the third of the "sulfonamide derivatives" to be released for sale by Squibb, the others being Sulfanilamide and Sulfapyridine. Sulfathiazole is believed to have the following advantages over Sulfapyridine:

1. More uniform absorption.
2. Less conjugation after absorption, so that a higher proportion of the total drug in the body-fluids is chemotherapeutically active.
3. Less tendency to cause serious nausea or vomiting.
4. Greater effectiveness against staphylococcal infections.

Sulfathiazole Squibb is supplied in bottles of 50, 100 and 1,000 0.5 Gm. tablets and 5 Gm. vials of crystals.

The ninety-second annual session of the Medical Association of Georgia will be held at Macon, May 9, 12, 1941.

OSLER AT OLD BLOCKLEY

"Osler At Old Blockley" a painting in oil by Dean Cornwell, was unveiled at the dedication of the Osler Memorial Building on the grounds of the Philadelphia General Hospital this past June and was later exhibited at the American Medical Association convention in New York.



The painting depicts one of Osler's outstanding contributions to medicine, namely, bringing medical students to the bedside of the patient for clinical study. In the painting Osler is shown at the side of an elderly patient on the hospital grounds. Surrounding Osler and the patient are internes who have stopped with him as they were on their way to the autopsy house to observe one of his famous post mortems. This autopsy house, now the only Osler Memorial Building in the United States, is shown in the background. This memorial was made possible by a grant from John Wyeth & Brother.

"Osler At Old Blockley" is the second painting in the series "Pioneers of American Medicine" sponsored by John Wyeth & Brother as part of a project to highlight the contributions of Americans to the advancement of medicine. "Beaumont and St. Martin" was the first painting in the series.

Colored reproductions of "Osler At Old Blockley," suitable for framing may be obtained free by addressing requests to this JOURNAL.

MEETING OF THE GEORGIA SECTION OF THE SOUTHEASTERN SURGICAL CONGRESS

The Georgia Section of The Southeastern Surgical Congress will hold its Annual Clinical Conference at Statesboro September 11, 1940, at the Bulloch County Hospital.

These Clinical Conferences have been held at Cuthbert, Millen, LaGrange, Royston, Rome, Toccoa, and Canton during the past few years and consist of the presentation of patients in the hospital by the local physicians and discussions by the visiting doctors.

The members of the Medical Association of Georgia are invited to attend this conference. A special invitation is extended to members of the First District Medical Society.

A completed program will be mailed to all members of the First District Medical Society about the first of September.

A luncheon will be served at the Georgia Teachers' College where short addresses will be made by Mr. Dave Turner, editor of the *Bulloch Times*; Dr. Allen Bunce, President-elect of the Medical Association of Georgia, and Dr. B. T. Beasley, Secretary-Treasurer of The Southeastern Surgical Congress.

PROGRAM

Morning Program

10 A.M., Eastern Standard Time

Bulloch County Hospital

Dr. T. C. Davison, Presiding

1. *Nephrolithiasis (A Sectional Problem)*
Presented by Dr. Jno. Mooney, Jr., Statesboro.
Discussion by Dr. E. G. Ballenger, Atlanta.
2. *Ruptured Duodenal Ulcer.*
Presented by Dr. J. H. Whiteside, Statesboro.
Discussion by Dr. Fred Waas, Jacksonville.
3. *Neurosurgery.*
Presented by Dr. R. L. Cone, Statesboro.
Discussion by Dr. Hugh Cochran, Atlanta.
4. *Compound Fractures With Gas Bacillus Infection.*
Presented by Dr. P. H. Smith, Savannah.
Discussion by Dr. C. F. Holton, Savannah.
5. *Educational Value of Rural Meetings of the Southeastern Surgical Congress*
Dr. J. C. Patterson, Cuthbert.
President, Medical Association of Georgia.

Luncheon

1 to 2 P.M.

*Georgia Teachers' College**Luncheon Speakers*

- Hon. Dave Turner, Editor, *Bulloch Times*.
Dr. B. T. Beasley, Sec.-Treas., Southeastern Surgical Congress.
Dr. A. H. Bunce, President-Elect, Medical Association of Georgia.

Afternoon Program

2:30 P.M., Eastern Standard Time

Bulloch County Hospital

6. *Carcinoma of the Uterus.*
Presented by Dr. A. J. Mooney, Sr., Statesboro.
Discussion by Dr. J. K. Quattlebaum, Savannah.
7. *Cesarean Section.*
Presented by Dr. Louis Kennedy, Metter.
Discussion by Dr. E. A. Wilcox, Augusta.
8. *Acute Appendicitis With Drainage.*
Presented by Dr. Bird Daniel, Statesboro.
Discussion by Dr. Edward Jelks, Jacksonville.
9. *The Role of the Liver in Surgical Patients.*
Presented by Dr. C. Thompson, Millen.
Discussion by Dr. Herbert Acuff, Knoxville.

ARTICLES ACCEPTED

To the Editor:

In addition to the articles enumerated in our letter of May 31 the following have been accepted:

Abbott Laboratories:

- Liver Extract—Abbott (Powder) in Capsules.
Liver Extract—Injectable, U.S.P., Abbott, 5 U.S.P. Units.
Liver Extract—Injectable, U.S.P., Abbott, 10 U.S.P. Units.

Arzol Chemical Co.:

Arzol Ferric Swabs.

Calco Chemical Co., Inc.:

Sodium Sulfapyridine Monohydrate—Calco.

Cutter Laboratories:

Pollen Extracts—Cutter (Acacia; Alder; Alfalfa; Alkali Rye Grass; Almond; Annual Blue Grass; Aspen; Barley; Bent Grass; Birch; Bract Scale; Brome Grass; Broncho Grass; Canada Blue Grass; Chapparal Broom; Cheat Grass; Chrysanthemum; Clover; Coreopsis; Cosmos; Cultivated Rye; Curly Dock; Dahlia; Dandelion; Date; Deodar Cedar; Elm; English Walnut; Eucalyptus; False Coastal Ragweed; Field Oats; Field Wheat; Goldenrod; Greasewood; Hops; Incense Cedar; Koehler's Grass; Locust; Mesquite; Mexican Tea; Monterey Cypress; Mountain Sagebrush; Mustard; Pasture Sagebrush; Pecan; Perennial Rye Grass; Pickleweed; Poverty Weed; Prairie Sagebrush; Privet; Quack Grass; Rabbit Brush; Rose; Salt Grass; Shasta Daisy; Sheep Sorrel; Slender Wheat; Southern Ragweed; Spearscale; Spiny Amaranth; Squirrel Tail; Sugar Beet; Sunflower; Sweet Vernal; Sycamore; Tall Oat Grass; White Valley Oak; Willow; Yellow Pine).

Endo Products, Inc.:

Ampoules Caffeine with Sodium Benzoate, 2 cc.

Lederle Laboratories, Inc.:

Staphylococcus Antitoxin "Globulin-Lederle-Modified."

National Drug Company:

Diphtheria Toxoid, Plain 3 cc. Ampul-Vial (1 immunization, 3-1 cc. doses).

Diphtheria Toxoid, Plain. 15 cc. Ampul-Vial (5 immunizations, 3-1 cc. doses).

Diphtheria Toxoid Refined, Alum Precipitated (1 immunization, 2 doses, 1 cc. each).

Diphtheria Toxoid Refined, Alum Precipitated (10 immunizations, 2 doses, 1 cc. each).

Sharp & Dohme:

Antipneumococcic Serum, Concentrated (Pneumococcus Antibody Globulin, Types I and II)—Mulford, 20,000 unit package.

Antipneumococcic Serum, Concentrated (Pneumococcus Antibody Globulin, Types I and II)—Mulford, 50,000 unit package.

Winthrop Chemical Co., Inc.:

Diodrast Sterile Solution (35 per cent, weight volume) 30 cc.

Atabrine Dihydrochloride.

Tablets Atabrine Dihydrochloride (Sugar Coated), 0.1 Gm. (1½ grains).

Tablets Atabrine Dihydrochloride 0.1 Gm. (1½ grains).

Tablets Atabrine Dihydrochloride 0.05 Gm. (¾ grain).

Ampules Atabrine Dihydrochloride Powder 0.2 Gm. with Ampules, 10 cc. size, Sterile Distilled Water.

John Wyeth & Brother, Inc.:

Silver Picrate Jelly 0.5%—Wyeth.

Soluble Trituration Silver Picrate 20% with Boric Acid 80%.

Sulfapyridine—Wyeth.

Tablets Sulfapyridine—Wyeth, 0.5 Gm. (7.7 grains).

The following articles have been accepted for inclusion in the List of Articles and Brands Accepted by the Council But Not Described in N.N.R. (New and Nonofficial Remedies, 1940, p. 560):

Endo Products, Inc.:

Ampoules Calcium Chloride Solution—Endo.

Lakeside Laboratories, Inc.:

Ampules Magnesium Sulfate—Lakeside, 25%, 2 cc.

Ampules Magnesium Sulfate—Lakeside, 10%, 10 cc.

Ampules Magnesium Sulfate—Lakeside, 10% 20 cc.

PAUL NICHOLAS LEECH, *Secretary,*

Council on Pharmacy and Chemistry.

American Medical Association.

Chicago, Ill.

July 12, 1940.

TRUTH ABOUT MEDICINES

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Chorionic Gonadotropin (Follutein).—The water-soluble gonadotropic substance obtained from the urine of pregnant women. This preparation is standardized in international units. One international unit equals 0.1 milligram of a standardized powder (see Council Report, J. A. M. A. 113:2418, Dec. 30, 1939). Its use is recommended in the treatment of cryptorchidism where there are no anatomic lesions causing obstruction of the testicular descent. The diagnosis of an anatomic lesion can often be made in this manner where this therapy fails; thus the surgical treatment of cryptorchidism may be instituted at an early age. Injections should not be prolonged after six to eight weeks if no descent is obtained, since excessive therapy may result in undesirable responses of precocious puberty and possibly other harmful reactions. The diagnosis of cryptorchidism should not include those cases which have been termed pseudocryptorchids, in which the testes are maintained in the inguinal canal as the result of reflex muscular spasm. Chorionic gonadotropin therapy in other disorders is still considered experimental because of the lack of sufficient published data.

Follutein—Squibb.—A nonproprietary brand of chorionic gonadotropin (follutein)—N.N.R. Both follutein and chorionic gonadotropin are nonproprietary terms. The product is supplied in the following dosage forms: Vials Follutein—Squibb, 500 International Units. Vials Follutein—Squibb, 1,000 International Units and Vials Follutein—Squibb, 5,000 International Units. E. R. Squibb & Sons, New York, N. Y. (J. A. M. A., June 3, 1940, p. 2307).

Benzedrine Sulfate Ampules, 10 mg., 1 cc.—Each cubic centimeter contains 10 mg. of benzedrine sulfate (New and Nonofficial Remedies, 1940, p. 233) in sterile water made isotonic with sodium chloride. Smith, Kline & French Laboratories, Philadelphia, Pa.

Ampoules Ephedrine Sulfate—Abbott, 0.025 Gm. ($\frac{3}{8}$ grain) 1 cc.—Each cubic centimeter contains ephedrine sulfate (New and Nonofficial Remedies, 1940, p. 240)

0.025 Gm. ($\frac{3}{8}$ grain) in chemically pure water. Abbott Laboratories, North Chicago, Ill.

Ampoules Gold Sodium Thiosulfate—Abbott, 0.075 Gm.—Each ampoule contains gold sodium thiosulfate (New and Nonofficial Remedies, 1940, p. 269) 0.075 Gm. Abbott Laboratories, North Chicago, Ill.

Ephedrine Alkaloid—Squibb.—A brand of ephedrine—U.S.P. (New and Nonofficial Remedies, 1940, p. 235). It is supplied in the following dosage forms: Ephedrine Compound Inhalant—Squibb, solution of ephedrine alkaloid containing ephedrine alkaloid—Squibb 1.0 Gm., camphor 0.6 Gm., menthol 0.6 Gm. and oil of thyme 0.3 cc. dissolved in light mineral oil base to make 100 Gm.; Ephedrine Inhalant Plain—Squibb, 1% solution of ephedrine alkaloid in a lilac scented mineral oil base. E. R. Squibb & Sons, New York, N. Y.

Ephedrine Sulfate—Squibb.—A brand of ephedrine sulfate—U.S.P. (New and Nonofficial Remedies, 1940, p. 240). It is marketed in the form of capsules $\frac{3}{8}$ grain and $\frac{3}{4}$ grain. E. R. Squibb & Sons, New York, N. Y.

Ampoules Sterile Solution Caffeine with Sodium Benzoate, 0.5 Gm. ($7\frac{1}{2}$ grains) 2 cc.—Each 2 cc. contains caffeine with sodium benzoate—U.S.P. (New and Nonofficial Remedies, 1940, p. 168) 0.5 Gm. ($7\frac{1}{2}$ grains) in distilled water. The Upjohn Co., Kalamazoo, Mich.

Hypodermic Tablets Caffeine with Sodium Benzoate, 0.065 Gm. (1 grain).—Each tablet contains caffeine with sodium benzoate—U.S.P. (New and Nonofficial Remedies, 1940, p. 168) 0.065 Gm. (1 grain). The Upjohn Co., Kalamazoo, Mich.

Amniotin in Oil, 5,000 International Units.—Each cubic centimeter contains 5,000 international units of estrogenic substance (New and Nonofficial Remedies, 1940, p. 764). E. R. Squibb & Sons, New York, N. Y.

Elixir Propadrine Hydrochloride.—Each fluidounce contains propadrine hydrochloride (New and Nonofficial Remedies, 1940, p. 252) 2 grains in a menstruum composed of alcohol 16 per cent, glycerine, sucrose, and water, flavored with oil sweet orange, fluidextract.

Accepted Devices for Physical Therapy

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

General Electric Galvanic Generator.—This generator is used in muscle and nerve stimulation, common ion transfer therapy and electrolysis. It is a portable unit 15 inches wide, 11 inches deep and 6 $\frac{1}{4}$ inches high. Models are equipped for operation on alternating and direct current. The unit was submitted to clinical trial and found to be satisfactory for use in common ion transfer and muscle stimulation. General Electric X-Ray Corporation, Chicago.

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This is the first question many physicians ask the detail man, when a new product is presented.

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verified, and that members of the Council have scrutinized the label, weighed the evidence, checked the claims, and agreed that the product merits the confidence of the physicians. The doctor can ask his own questions, and make his own decision about using the product, but not only has he saved himself a vast amount of time but he has derived the benefit of a fearless, expert, fact-finding body whose sole function is to protect him and his patient.

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Mead Johnson & Company, Evansville, Ind., U. S. A.

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EXAMINATIONS

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next written examination and review of case histories (Part I) for Group B candidates will be held in various cities of the United States and Canada on Saturday, January 4, 1941, at 2:00 P.M. Candidates

who successfully complete the Part I examinations proceed automatically to the Part II examinations held later in the year.

Applications for admission to Group B, Part I, examinations must be on file in the Secretary's office not later than October 5, 1940.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting at Cleveland, Ohio, immediately prior to the 1941 meeting of the American Medical Association.

After January 1, 1942, there will be only one classification of candidates, and all will be required to take Part I and Part II examinations.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, (6) Pennsylvania.

SURGICAL SELLING COMPANY

A new department has recently been added, and is now functioning 100 per cent to serve the southern hospitals and doctors at the Surgical Selling Company, 139 Forrest Ave., N. E., Atlanta, Georgia.

When the company was organized 28 years ago and first began serving the hospitals and doctors in the south-east, they made it possible to obtain surgical and hospital supplies in the south instead of going to northern markets.

As southern hospitals have grown and increased, so has this company and with every effort to increase and improve its facilities. Recognizing the importance of a clinical laboratory, the company has added a complete laboratory supply department. Mr. Jerry L. Mabry, a competent chemist, is in charge and assures fresh solutions and stains. Only the best and recognized chemicals, solutions and stains will be supplied our customers.

The company carries an excellent stock of analytical reagent chemicals, dry stains, laboratory glassware and scientific instruments—the doctor and hospital may obtain everything from an ampoule to an operating table. When in need of supplies, Mr. Ray K. Rowden, sales manager, with other employees of the company, will pleasantly and profitably serve you.

The company is wholesale agent for Lehn & Fink for lysol; and hospital agent for Becton Dickinson Ward hypodermic syringes, hypodermic needles and clinical thermometers.

On page III you will find advertised bulk prices on items routinely used in the laboratory for sale by the Surgical Selling Company, 139 Forrest Avenue, N. E., Atlanta, Georgia.

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THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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SULFANILAMIDE AND ITS DERIVATIVES

EUSTACE A. ALLEN, M.D.
Atlanta

In these days of swift, and often revolutionary changes, new facts are being established in all fields of human endeavor. Frequently these changes are so rapid that it is impossible for us to keep up with the literature in a particular field. When a new idea or treatment appears in medicine it is necessary that we know something of its use, its reaction, its toxicity and its clinical results. The general physician, not being an expert in all branches of research and experimental medicine, must accept the opinions of the workers in these fields. Because of the vast amount of recent literature on sulfanilamide and its derivatives, embracing all lines of medicine, I believe a brief review of the subject will be of value.

Ever since scientific research has become a part of medicine there has been a search for an ideal drug. Listed below are a few of the many requirements for a remedy effective against a large number of diseases; one that is easily administered; one that is rapidly effective; one which has no dangerous after-effects and one which can be given to ambulatory patients. Sulfanilamide appears to be our nearest approach to an ideal drug, but it falls short in many respects. As we learn more about the drug and especially facts regarding some of its derivatives our aim for an ideal medication may be realized.

Sulfanilamide did not appear suddenly on the medical horizon. Study of this drug has extended over a period of more than thirty years. In 1908 P. Gelmo¹ described

para-aminobenzenesulfonamide, now known in this country as sulfanilamide. His report simply was a method for its preparation and no reference was made as to its possible value in medicine. The following year a group of German chemists prepared azo-dyes with the sulfonamide radicals with a view of producing a color with greater fastness. Still there was no thought of its connection with medicine. In 1913² Eisenberg noted that chrysoidine, an azo-dye having the sulfonamide radical, could kill certain bacteria in vitro. This observation led to the production of a large number of medical dyes among which was pyridium³ which is still in use today as a urinary antiseptic. Jacobs and Heidelberger⁴ studied para-aminobenzenesulfonamidehydrocupreine with many other azo-dyes based on Gelmo's study and stated that many of their compounds were highly destructive to certain bacteria. They promised a full report later but, unfortunately, this report was never published. The value of sulfanilamide as an antibacterial agent remained stationary as far as the literature was concerned, except for an occasional scattered report, until 1935, when Domagk⁵ reported that prontosil when given by mouth was capable of preventing the death of mice inoculated with fatal doses of a virulent strain of streptococci. His results with other organisms, such as staphylococci and pneumococci, were not so effective.

Since these original observations many attempts have been made to modify the structure of these chemical therapeutic agents. In July, 1935, Domagk⁶ described neoprontosil, a less toxic and more soluble chemotherapeutic agent. This is another drug which is used extensively today, especially in chronic diseases or when prolonged treatment is necessary.

In 1935 a group of French workers⁷

Read before the Medical Association of Georgia, Savannah, April 24, 1940.

PRONTOSIL

4 SULFONAMIDO-Z-4 DIAMINOBENZENE

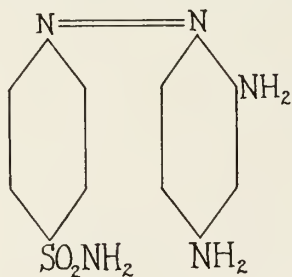


fig. I

postulated that these effective dyes were changed within the body to form sulfanilamide and that the azo radical was of no value. Since these observations much has been done in the laboratories of this country and abroad to produce a compound possessing a higher chemotherapeutic index. Several new compounds were introduced, but finally they returned to the original product, sulfanilamide.

American clinicians reading the German reports became interested during 1935, although the first mention of the compounds in the *Journal of the American Medical Association* was in its edition of June 13, 1936,⁸ in which an abstract of a report by some French writers was found. In 1935 Dr. Ashley Weech⁸ at the Babies Hospital in New York City was the first to use the drug in this country. This was in a case of meningitis. Other American physicians were carrying on a separate investigation during this year. In November, 1936, Long and Bliss⁹ made their first report to the Southern Medical Association meeting. In 1937 the Council on Pharmacy and Chemistry of the American Medical Association adopted the name sulfanilamide to designate the different foreign compounds in this country. From the time Gelmo made his first mention of para-aminobenzenesulfonamide until the present time, it is estimated that over 5,000 compounds have been prepared and studied.¹⁰ For practical importance I shall refer to only those which are now in clinical use in this country.

Sulfanilamide and its derivatives are best given by mouth. Marshall et al¹¹ proved that these drugs are just as effective through

NEOPRONTOSIL

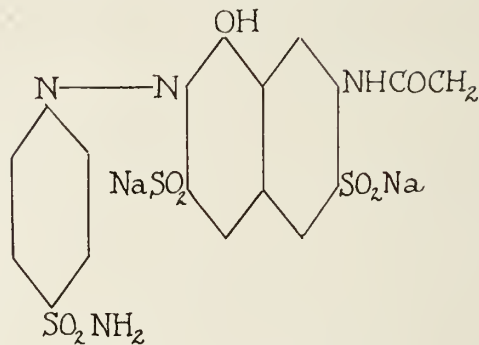


fig. II

the intestinal tract as by any other method of administration and are rapidly absorbed. Absorption reaches its maximum about four hours after it is taken orally. The drug is excreted by the renal system in 16 to 24 hours¹¹. Absorption takes place through the intestines; little, if any, reaches the blood from the stomach. Therefore, any condition that produces abnormal intestinal activity may disturb the absorption of the drug¹¹. This undoubtedly is the reason for its failure at certain times to produce the results expected. When a patient is unable to retain medicine by mouth, subcutaneous and intramuscular injection must be used until oral treatment can be started. The drug has been successfully administered by rectum with good but slow results. Intravenous and intraspinal administrations are dangerous and should be reserved for critically ill individuals for whom time is a major factor. The majority of fatal accidents during the use of these drugs have followed their use intravenously or intraspinally.

Sulfanilamide is transported by the blood to all tissues of the body. It is detoxified by the liver and a conjugated form, para-acetylaminobenzenesulfonamide is formed¹². The drug is almost entirely excreted by the kidneys in two forms: the conjugated, which is inactive, and sulfanilamide, the active principle. The rate of flow of the urine determines the rate of elimination but there is no deleterious effect on the kidney function¹³. The phenolsulphonphthalein test is a fairly accurate method of determining the

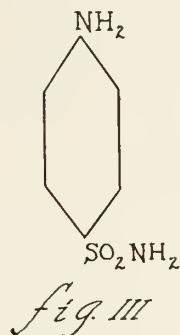
rate of excretion of the drug. When there is disturbance of kidney function the concentration in the blood will increase¹². Restriction of fluid intake will also increase the concentration in the blood and the urine, while large amounts of fluid by mouth will hasten the elimination of the drug and reduce the concentration in the blood and urine.

One of the interesting reasons for the widespread use of sulfanilamide is the distribution of the drug in the body. During administration concentration slightly less than is found in the blood occurs in all exudates and transudates of the body¹². It is found both in pleural and peritoneal effusions, in pancreatic juices, in spinal fluid, in vitreous humor and in prostatic secretion. There is poor concentration in bone and fat. Concentration seems to be governed by the amount of water in the tissues. Sulfanilamide will pass from maternal to fetal circulation; it has been found in mother's milk, in cervical secretion and in menstrual flow¹⁴. The drug appears in amniotic fluid and in the first urine of the newborn. The concentration in the fetus and infants is much below that of the mother and should not be considered a contraindication in pregnancy or in the nursing mother. No ill effect to the baby has been reported while the mother was under treatment.

It is impossible to make a rigid rule for the dosage of any drug, for this will vary with the individual and the disease being treated. In order to obtain the best results with sulfanilamide it is necessary to maintain an adequate concentration of the drug in the blood and tissues of the body. It is also essential to produce this concentration quickly by large initial dosage. The concentration desired will vary with the disease treated and the acuteness of the illness. Usually a concentration of 8 to 10 milligrams for each 100 cubic centimeters of blood will suffice. In acute and serious infections a higher concentration of 10 to 15 milligrams for each 100 cubic centimeters of blood may be necessary. The first concentration of 8 to 10 milligrams in the majority of individuals, can be maintained by

SULFANILAMIDE

p-AMINOBENZENE SULFONAMIDE



initial dose of 30 grains, followed by 10 to 15 grains every four hours day and night; and the latter concentration of 10 to 15 milligrams, may require a larger initial dose with 15 to 20 grains every four hours. Tablets crushed and dissolved in water or normal salt solution will aid in absorption. Because of the rapid absorption and elimination it is necessary to give the drug frequently day and night during the acute stage in order to maintain a constant level of concentration, for sulfanilamide must be kept at a certain level in the blood and the tissues to produce the best results.

If there is no response to the drug after three to four days of intensive treatment it is not advisable to continue its use. The severe reactions from sulfanilamide usually follow prolonged use of the drug. After the acute symptoms of the disease under treatment have subsided the drug should be continued for several days, with a gradual reduction of the dose. The length of treatment will depend on the disease being treated. This will prevent a relapse and eliminate the possibility of complications. In chronic diseases the blood concentration does not have to be maintained at such a high level, but naturally, the duration of treatment is longer. Some authors advise a rest period of a week between periods of treatment in these chronic conditions. The test, introduced by Marshall¹², for concentration of the drug in the blood and other tissues of the body is a procedure which can be done in any hospital or private laboratory. Ratish and Bullowa in *Journal of Laboratory and Clinical Medicine*¹⁵ describe a bedside test for sulfapyridine which

simplifies the laboratory test and makes it available to everyone. A concentration test should be done whenever possible. Its use in serious infections is essential for it will govern the dosage and give one an insight into the ability of the patient to absorb the drug and to eliminate it.

There has been considerable speculation as to how the sulfonamide compounds combat disease. It is known from experimental data that its action is bacteriostatic and bacteriocidal, especially when it is used in heavy doses. Lockwood and Lynch¹⁶ showed that sulfanilamide has a bacteriostatic and also limited bacteriocidal action in vitro on hemolytic streptococci, pneumococci and colon bacilli, which is directly proportional to the degree of drug concentration in the culture medium. They advanced* the idea that the action of sulfanilamide is due to the interference with nutritional demands of the bacteria which can die out in a phagocyte—free environment by starvation—autolysis. Levaditi and Vaisman¹⁷ after experiments postulated that sulfonamide compounds in some indescribable manner hindered the development of the capsule of growing streptococci, leaving them easy prey for the normal defensive powers of the body. The drug either inhibits the formation of toxins produced by certain bacteria or neutralizes the effects of these toxins. It has been proved that it will stimulate phagocytosis of the polymorphonuclear cell in the early stage and the monocytes of the later phases of disease¹⁸. It has bacteriocidal action on all common bacteria found in the urinary tract but the streptococcus fecalis. The drug is effective in acid or alkaline urine but it seems to act better when the urine is alkaline. Sulfonamide compounds do not produce antibodies nor do they build up resistance to reinfections, but if there is a partial immunity in the host the drugs seem to give better results.

Sulfanilamide and its derivatives have a wide field of usefulness. While still in the experimental stage they are being tried on all diseases including those of the skin and its contents. They have a place in every branch of medicine and are used extensively, with success, in the treatment of animals.

Sulfanilamide exerts its greatest specific action on streptococcus hemolyticus infection whether local or systematic; next on meningococcus and gonococcus infections respectively. Colon bacilli and staphylococci sometimes respond to its action. Many other bacteria and diseases are controlled by its use. Streptococcus meningitis¹⁹ formerly considered a fatal disease has responded so well to sulfanilamide treatment that the mortality rate is now placed below 25 per cent. Meningococcus meningitis had a mortality rate of 75 per cent before the introduction of serum, but with the use of serum the rate dropped to approximately 50 per cent, combining the use of serum and sulfanilamide the rate dropped below 15 per cent. In puerperal sepsis²⁰ and mastitis usually due to streptococcus infection, sulfanilamide has a marked beneficial effect with a great reduction in the mortality. If mastitis is treated before fluctuation takes place it will usually clear up without drainage. Streptococcus infection of the throat, middle ear infections and mastoiditis respond dramatically to the drug. The need for a mastoid operation is rare if the patient has had early and adequate treatment with sulfanilamide. In chronic middle ear infections and chronic mastoiditis most satisfactory results have been obtained with the drug.

There have been more than 300 case reports of patients with trachoma²¹, the dreaded eye infection, treated with sulfonamide compounds with marked curative results. Neoprontosil has been used chiefly because of its low toxicity and because of the long period of therapy required in these conditions. Sulfanilamide controls gas gangrene²² due to bacillus welchii so well that amputation is rarely necessary. Scarlet fever²³, a disease usually attributed to hemolytic streptococcus, has responded well to the drug when it was given early; it shortens the course of the disease and complications have been fewer and less severe. The formerly fatal bacteremias caused by streptococcus, meningococcus and gonococcus are now successfully overcome in many instances by this magic drug, thereby restoring such victims to normal health. Mar-

velous cures of gonococcal infections have been produced with sulfanilamide but sulfapyridine now seems to be the drug of choice when treating this disease. Undulant fever²⁴ is another disease which responds to sulfanilamide; the acute cases better than the chronic.

Reports show that the drug is effective in the treatment of tularemia²⁵. In erysipelas the mortality rate has been reduced with sulfanilamide so that it is no longer looked upon as a dreaded infection. In peritonitis associated with appendicitis and other acute infections of the gastro-intestinal tract sulfanilamide has been used with gratifying results²⁶. It should be given preoperatively as well as in all drained cases. In certain types of chronic ulcerative colitis it has proved its beneficial effect but, because of prolonged therapy, an effective drug low in toxicity is needed. Here again neoprontosil has proved its value and, although not as dramatic as the parent drug, the results have been satisfactory. Proctologists find sulfanilamide a valuable drug²⁷. It will clear up infections around the rectum, prevent spread of infection and reduce the time of convalescence in operative cases. Dentists²⁸ report its value when placed in tooth sockets after extraction. In traumatic surgery, especially in compound fractures²⁹, local implantation of the drug in the wound has been followed by good results. There are reports that the drug has had prompt and favorable action in the treatment of pemphigus vulgaris⁸.

Considerable work is being done on the use of sulfonamide compounds in the prevention of certain diseases as in scarlet fever epidemics, malaria and others. It is too early for a definite conclusion as to the results obtained.

In our enthusiasm for the drug we must not disregard the standard treatment for the disease in question and expect sulfanilamide to do the work alone. The diet, the fluid intake and the usual measures to relieve pain and add comfort to the patients should be used in the same manner as if the drug were not given.

Sulfanilamide is not a "cure all" and there are reports that it has failed entirely

in certain diseases in which it usually acts as a specific, but is another weapon and an important one for us to use in the fight against disease. It is best not to compound another drug with sulfanilamide, but almost any drug can be used at the same time. Intravenous glucose or saline, blood transfusions, local applications and surgical means can and should be used whenever indicated. Barbiturates, coal tar derivatives, opium extracts, digitalis, arsphenamines and other drugs can be used with sulfanilamide. There are no foods which should be exempted because of the use of the drug. Saline laxatives, especially magnesium sulphate, are still omitted during treatment, by most physicians.

As to the contraindications to the use of the drug, the first, I think, would be doubt as to the diagnosis. Let us leave the experimental work to the hospitals and clinics equipped to conduct such tests. Other than this there seems to be only one contraindication and that is a history of an acute toxic reaction from a previous administration of the drug. Anemia, a low white count, jaundice or allergic manifestation to other drugs are not considered sufficient to withhold the drug, but in these conditions closer observation and more careful checking are certainly necessary. Disturbed kidney function is not a contraindication but requires caution in administration of the drug.

Toxic manifestations are present in the majority of people who take the drug, yet they are usually mild and require little treatment. The most common toxic reaction is cyanosis, ranging from a tinge of blueness to a well-marked generalized bluish color. As a general rule this reaction can be disregarded for it will clear up when the drug is discontinued. Sulfhemoglobinemia, a rather severe reaction, can usually be prevented by diet, enemas and mineral oil. If either one of these reactions becomes annoying, methylene blue by vein or mouth will control the condition. Acidosis is the next most common reaction. Some writers³⁰ insist that there is an alkalosis rather than acidosis due to hyperventilation but the use of soda bicarbonate has become a routine procedure when sulfanilamide is given and

SULFAPYRIDINE

2-SULFANILAMIDOPYRIDINE

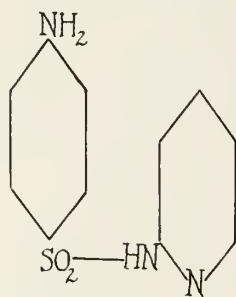


fig IV

its universal use seems to prove its value in this reaction. Increased weakness, lassitude, loss of appetite, nausea and vomiting are often present to some degree. Other more serious reactions are fewer, a progressive fall in hemoglobin, skin rash, severe hemolytic anemia and agranulocytosis, which is a late and serious complication. In these severe reactions it is best to stop the drug and use supportive treatment as indicated by the condition present. Renal calculi formation has been reported following the prolonged use of sulfanilamide, but more especially after the use of its derivatives. This is more especially true in those conditions in which the drug is not eliminated rapidly by the kidneys.

Sulfapyridine—(M & B 693—Dagenan)—one of the most widely used derivatives of sulfanilamide was introduced to the medical world by Whitby of England in May 1938³¹. During the short period of its use it has revolutionized the treatment of pneumonia and other diseases caused by the pneumococci. It has been used in most all diseases in which sulfanilamide has been tried. Sulfapyridine is so slightly soluble and so poorly absorbed and such a variable amount is transformed into an inactive compound that the proper concentration in the blood is more difficult to maintain³². Therefore, it should be used only in those diseases where clinical trials show it to be superior to other drugs. The drug is dramatic in its action in pneumonia, bringing about a spectacular improvement in the patient's condition with a drop in the temperature, in twenty-four to forty-eight hours.

From present data the mortality rate in the pneumonias due to pneumococci, when treated early and properly with sulfapyridine, ranges from 2 to 8 per cent. This is a marked improvement over all previous forms of treatment. There are about 500,000 cases of all types of pneumonias in the United States each year with an average of 100,000 deaths. Under the new form of therapy three-fourths of these can be saved.

The dosage of sulfapyridine is the same that Whitby³¹ recommended. The initial dose of two grams followed in two hours by the same dose and continue with one gram every four hours until temperature has remained near normal for twenty-four hours, then one gram every six hours for another twenty-four hours and perhaps longer depending on clinical findings. Usually, a total of twenty to thirty grams, for the average case, will suffice. If the drug is needed after the fourth or fifth day, smaller doses will be sufficient. The pulse rate and respiration usually fall with the temperature. Clinical symptoms, as cyanosis, general appearance, anxious expression, etc., improve along with temperature, but physical chest findings are slower to show improvements.

During the course of treatment of pneumococci infections one frequently encounters conditions which make the oral method of giving sulfapyridine impossible. Nausea, vomiting, comatose patients and the need for urgent and rapid administration of the drug calls for other methods. Subcutaneous or intravenous medication have been used with favorable results, either to supplement oral treatment or as a substitute until the patient was able to retain the drug by mouth. Haveland and Blake³³ describe a method of using sulfapyridine in this way. Sodium sulfapyridine is also used for intravenous treatment. A blood concentration of 8 to 15 milligrams for each 100 cubic centimeter of blood is the usual required standard.

Nausea, vomiting and abdominal discomfort are the most common toxic manifestations. Fever, skin rash, severe anemia and renal complications are the serious reactions. Hematuria, albuminuria and renal

calculi are the most common kidney reactions.

Sulfapyridine has shown its superiority over sulfanilamide in pneumococcus infection, but in streptococcus and other infections, although of value, it is not superior. Because of its instability as to absorption and elimination, and because of its toxicity, it should be limited to those conditions in which it is superior.

There are two other derivatives which are receiving extensive clinical trials, but they are not available to the general physician. These new drugs are sulfathiazol and sulfamethylthiazol, but it is still too early for one to draw definite conclusions as to their use. Experimental data show them to be more effective against staphylococcus infections³⁴ than other drugs mentioned in this paper and may supplant them in the treatment of other diseases. They are effective against pneumonia and because of low toxicity and practically no nausea or vomiting, they become a safer drug than sulfapyridine. Chronic toxic reaction, due to accumulation of drug in body, is less apt to occur for it is rapidly eliminated by the kidneys.³⁵ The blood concentration is more difficult to maintain because of rapid absorption and elimination. Fever and skin rashes seem to be quite common with these new derivatives.

There is considerable work being done on sulfanilamide in prophylaxis of disease and wound infection. Scarlet fever epidemics, malaria and war wounds are being investigated from a preventive standpoint. Fuller and James³⁶ in discussing war wounds think prophylaxis deserves serious consideration. They outline the principles of prophylactic dosage and state that a concentration of 2 milligrams per 100 cubic centimeters as adequate blood level for prevention. This level must be reached quickly after wounding and maintained until proper supervision can be secured.

In conclusion, may I say that there is much work to be done and much is being done to obtain a safe and practical ideal drug. We must adapt ourselves to the rapid, progressive changes which are taking place in the field of medicine.

Summary

1. Sulfanilamide and derivatives have a wide field of usefulness.
2. Sulfanilamide is not a "cure all" but it is a powerful weapon against disease. Supportive treatment and specific serums should be used whenever possible with the chemotherapy.
3. Derivatives of sulfanilamide should be used only in those diseases which fail to respond to the parent drug.
4. Treatment should be started as soon as diagnosis has been made.
5. Sulfanilamide and all of its derivatives should be given by mouth when possible.
6. It should be given in sufficient dosage and at frequent intervals to maintain adequate and uniform concentration in the blood stream.
7. Effective concentration varies with the disease being treated and the seriousness of the infection.
8. The concentration level in both the blood stream and the urine should be checked as often as possible.
9. Fluid intake regulates the concentration.
10. Do not discontinue the drug until several days after the laboratory and clinical cures have been established.
11. Carefully check the hemoglobin and leukocyte count frequently to avoid serious complications.
12. Do not compound other drugs with sulfanilamide. It is advisable to omit sulfate laxatives during treatment.

BIBLIOGRAPHY

1. Gelmo, P.: J. prakt. Chem. 77: 369, 1908.
2. Eisenberg, P.: Zentralbl. f. Bakt. 71: 420, 1913.
3. J. Russ. Physiol. Chem. Soc. 46: 1216, 1914.
4. Heidelberger, M., and Jacobs, W. A.: J. Am. Chem. Soc. 41: 2131, 1919.
5. Domagk, G.: Deutsche. med. Wehnschr. 61: 250, 1935.
6. Domagk, G.: Angewandte Chem. 48: 67, 1935.
7. Compt. rend. Soc. de biol. 120: 756, 1936.
8. Long and Bliss: The Clinical and Experimental Use of Sulfanilamide, Sulfapyridine and Allied Compounds.
9. Long, P. H., and Bliss, E. A.: South. M. J. 29: 1124, 1936.
10. Dept. of Medical Research, Winthrop Chem. Co.
11. Marshall, E. K., Jr.: J. Pharmacol. & Exper. Therap. 61: 191-196, 1937.
12. Marshall, E. K., Jr.: J. A. M. A. 108: 953, 1937.
13. Marshall, E. K., Jr., et al: J. A. M. A. 110: 1885, 1938.
14. Stewart and Pratt: J. A. M. A. 111: 1456, 1938.
15. J. Lab. & Clin. Med. 25: 654, 1940.
16. Lockwood and Lynch: J. A. M. A. 114: 935 (March 16) 1940.
17. Compt. rend. Soc. de biol. 119: 946, 1935.
18. Christopher and Fitch: Bull. Univ. Maryland School Med. 23: 147, 1939.
19. Sappington and Favorite: Ann. Int. Med. 13: 576, 1939.
20. Gordon and Rosenthal: Surg. Gynec. & Obst. 69: 631, 1939.
21. Harley, Brown and Herrell: Proc. Staff Meet., Mayo Clin. (Oct. 11) 1939.

22. Personal Communication.
23. J. Connecticut M. Soc. (July) 1939.
24. Blumgart and Gilligan: M. Clin. North America (Sept.) 1939.
25. Curtis, W. L.: J. M. A. Georgia 29: 369 (July) 1940.
26. Ravdin, Rhoads and Lockwood: Ann. Surg. 111: 53, 1940.
27. Personal Communications.
28. Personal Communications.
29. Jensen, et al: Surgery 6: 1, 1939.
30. Hartman and Associates: J. Clin. Investigation 17: 465, 1938.
31. Whitby: Lancet 1: 1210, 1938.
32. Marshall and Litchfield: J. Pharmacol. & Exper. Therap. 67: 454, 1939.
33. Haveland and Blake: Am. J. M. Sc. 199: 385, 1940.
34. Barlow and Homburger: Proc. Soc. Exper. Biol. & Med. (Dec.) 1939.
35. Reinhold, Flippin and Schwartz: J. Med. Science (March) 1940.
36. Fuller and James: Lancet 1: 487, 1940.

DISCUSSION ON PAPER OF DR. EUSTACE A. ALLEN

Dr. J. C. Metts (Savannah): Dr. Allen's paper has given us an excellent resume of the present knowledge of sulfanilamide and its derivatives. He has reviewed extensively many articles; and discussion can add little to what he has presented. My own remarks are limited largely to local experience and personal observation. The conquest of hitherto hopeless illness by sulfanilamide represents one of the marvels of modern medicine; and no one who gives the drug and observes patients get well where formerly his efforts had been limited to diagnosis and prayer, would question its being labeled indispensable, if not ideal. Certainly it approaches the conquest of acute illness in an active way, rather than by bolstering passive defense.

The enthusiastic reception of sulfanilamide in Savannah parallels the experience of physicians everywhere. We have seen recovery from septicemia, streptococcal meningitis, gas bacillus infection, and other formerly fatal infections following its use. Neoprontosil is especially popular with my colleagues here, and their results are hard to explain on the basis of a small dose of sulfanilamide alone.

There is very little pneumonia in Savannah, but in the few cases I have seen, clinical recovery has been amazingly rapid; and in an influenza epidemic during the winter, the duration of illness seemed considerably shortened.

Sulfathiazol is a relatively new drug and as yet we have not had the opportunity of using it extensively, but in a few cases of furuncles, and one case of osteomyelitis it was very effective. In two other cases of bladder infection with staphylococcus of long duration, there was immediate clearing. In these patients, the nausea observed with sulfapyridine, was absent, and I had the impression that it was remarkably effective. Reports recently published of its value in pneumonia are very optimistic and it may well supplant sulfapyridine as the drug of choice in this disease.

I wish to congratulate Dr. Allen on his excellent paper.

Dr. E. A. Allen (Atlanta): I realize that in fifteen minutes' time it is hard to cover a paper with the subject of "Sulfanilamide and Its Derivatives"; in fact, you have to cut out so much of the material that is necessary in a complete presentation of the subject.

With the permission of the Chair, I am going to show a few lantern slides of the typewritten summary on my paper.

THE TREATMENT OF CARDIAC EDEMA

EVERT A. BANCKER, JR., M.D.

Atlanta

Our knowledge of heart disease has increased during the twentieth century chiefly along etiologic and statistical aspects. Our ability to diagnose diseases of the heart has always greatly outweighed our ability to successfully treat patients with cardiac disorders. Instrumental methods of study have constantly been improved which results in greater prognostic accuracy and a better understanding of the vagaries of arteriosclerotic heart disease which constitutes such a large proportion of cardiac disability.

Etiology

Many attempts have been made to properly classify diseases of the heart but no satisfactory scheme has yet been devised. For convenience we may group together the more common causes, such as hypertension, arteriosclerosis, rheumatic fever and syphilis; and the less common causes such as hyperthyroidism, chronic disease of the lungs, severe anemia, bacterial endocarditis and congenital malformation. Any of these etiologies may lead to either congestive heart failure or the syndrome of angina pectoris, or coronary thrombosis with subsequent congestive heart disease.

The Precipitating Causes of Heart Failure

Any person with poor cardiovascular heredity or known to have suffered one of the above named diseases is a potential case of cardiac failure and should avoid the precipitating causes of cardiac failure. The following nine precipitating causes of cardiac failure have been recognized:

(1) *Infections*

Infections are the most important precipitating causes and, because of their frequency, respiratory infections are especially important. I am sure you have all seen patients with definite but symptomless heart disease, develop dyspnea on exertion, following an attack of influenza, pneumonia, or typhoid fever. All persons with known

Read on the program of the Emory Medical Alumni Clinics, June 4, 1940.

heart disease should be kept in bed a sufficient time after an acute infection for the myocardium to completely recover. Tonsils and teeth should be removed as soon as a diagnosis of focal infection is made. Acute and chronic rheumatic disease should receive early and careful treatment.

(2) *Obesity*

This is an avoidable cause of failure because a person can control the body weight by a sincere adherence to the proper diet. It is necessary to use extract of thyroid or pituitary in certain cases when diet alone will not cause a reduction in weight. A metabolism test will aid in the regulation of the thyroid dosage. An obese person has a greater oxygen consumption during the daily routine than a person of normal weight and thus a greater demand for work is placed upon the heart. Also obese persons usually have high diaphragms and a high diaphragm causes a decrease in vital capacity which will predispose to dyspnea.

(3) *Anemia*

In patients with severe anemia there is an increase in cardiac work because of the greater compensatory output. The heart muscle also suffers fatty degeneration which is probably due to the poor quality of the blood passing through it. In anemia of long standing there may be cardiac hypertrophy. This is one reason why all patients with suspected heart disease should have the benefit of a complete blood count.

(4) *Cough*

Cough of any type is usually distressing to a cardiac patient and will frequently precipitate an attack of congestive failure. Simple hygienic rules should be followed to prevent respiratory infections but when present they should receive early and vigorous treatment, the most important of which is rest in bed.

(5) *Overexertion*

Many patients date their initial attack of heart failure to some unusual and overtaxing exertion. Persons with compensated cardiac disease should be warned against overexerting themselves and should be told exactly how much and what form of exercise to take. Also elderly and obese persons should not be allowed to overexert

themselves in their quest for daily exercise.

(6) *Pregnancy*

Patients with any signs of congestive heart failure or patients with a limited cardiac reserve should not become pregnant. If pregnancy should occur, a therapeutic abortion should be done because the work of the heart is increased throughout pregnancy and the act of labor throws a severe strain on it. At the Boston Lying-in Hospital cardiacs contributed fifteen per cent of all maternal deaths during the last seventeen years.

(7) *Cardiac arrhythmia*

Auricular fibrillation is the most common arrhythmia which may cause congestive failure. Rheumatic heart disease, hyperthyroidism and arteriosclerosis are the three most common causes of auricular fibrillation. Congestive heart failure is rarely the result of paroxysmal tachycardia and auricular flutter.

(8) *Tachycardia*

A person with organic heart disease who suffers a long continued simple tachycardia is liable to develop cardiac failure. Occasionally a normal heart will fail if subjected to an excessive rate over a long period of time.

(9) *Emotional and mental causes*

Rarely a violent emotional upset such as anger, fear or grief may increase the cardiac output by increasing the pulse rate and thus raise the blood pressure and increase the work of the heart beyond its capacity and cause congestive failure. Prolonged mental strain will occasionally react on the heart in the same manner.

In actual practice the patient usually suffers two or three of the above mentioned factors but in a patient with a limited cardiac reserve any one of these factors may be sufficient to precipitate congestive failure.

We do not yet know how to prevent all forms of heart disease and we cannot prevent congestive heart failure but we can prolong the period of compensation and comfort and put off the evil day as long as possible by the prevention and treatment of the many precipitating causes.

Facts About Edema

A person with sudden heart failure is

less likely to develop local or general edema than one suffering chronic heart failure. In sudden heart failure the onset is so abrupt that there is not time for a large amount of excess fluid to accumulate in the tissues, for massive edema can only develop when the water intake exceeds the output for a number of days.

Patients who are just beginning to develop edema but have relatively little dyspnea, are apt to have edema of the ankles at night and swelling of the face and eyelids in the morning. This is due to the effects of gravity, the position of the body being more vertical during the day and more horizontal during the night. Also, the mechanical tissue pressure and elasticity are less in the lower eyelids than in any other part of the body except the scrotum.

Some patients with heart failure develop considerable edema without much fluid accumulation in the body cavities. This is explained on the basis of a variable capillary permeability in different parts of the body, the intestinal capillaries being more permeable than those in the extremities.

After all the chief factor in the development of cardiac edema is an increase in venous pressure. Other factors which may play important roles in certain cases are diminished blood supply, subnormal serum protein produced by inadequate diet or albuminuria, decreased elasticity of the tissues due to previous edema, and interference with the drainage of lymph from the thoracic duct because of an excessively high venous pressure.

Rest

It is of great importance that patients with cardiac edema secure mental as well as physical rest. Whether this can be best accomplished at the home or in a hospital, with or without nurses, will depend on individual factors and can best be ascertained by the family physician. Most patients do best when kept in bed twenty-four hours of the day. The argument might be presented that some patients feel better when sitting in a comfortably inclined chair. This may be true but the slightest exertion usually causes dyspnea and the patient undergoes a struggle getting from the bed to the chair

and back again and usually cannot sleep soundly all night in a chair. If a patient can get to a comfortable chair without disagreeable dyspnea this method may be employed. If weakness and dyspnea are extreme the patient should not leave the bed even for bowel movements. Most patients claim that they cannot have satisfactory bowel movements while in bed but if the bowel movements are kept soft with mineral oil a fairly good result can be obtained on a bed pan which will eliminate the exertion used going to the toilet or getting up to a bedside commode. All urination should take place in bed. Men patients should use a bottle for this purpose. A person in bed should be made comfortable. A back-rest should be made for the purpose or a straight chair may be inverted and used as a back-rest. A prop for the feet will keep the patient from slipping down in the bed and causing undue pressure on the buttocks. These small items are important in assuring the patient a maximum amount of relaxation.

It is important that the patient secure a good night's rest. This is usually not possible without medication. If the respiration during the day is not labored and there are no attacks of nocturnal dyspnea, a simple sedative such as bromide, luminal, amytal, or chlorol-hydrate may prove satisfactory. If the dyspnea is extreme and attacks of nocturnal dyspnea are frequent, morphine will be absolutely necessary. A good plan is to give a hypodermic of 1/6 to 1/4 grain of morphine sulphate or 1/32 grain of dilaudid hydrochloride or 1/6 grain of pantopon each night at bedtime for the first few nights, after which the dose may be gradually diminished or a similar dose may be given by mouth. Do not hesitate to give morphine subcutaneously to patients with advanced cardiac failure. The administration of morphine may be the deciding factor in the immediate recovery of the patient from an attack of decompensation. I find that dilaudid in a dose from 1/64 to 1/16 of a grain is usually sufficient to promote satisfactory sleep. Dilaudid is slightly less nauseating and less constipating than morphine sulphate. Dilaudid is dihy-

dromorphinone hydrochloride. Great credit should be given morphine in congestive heart failure. Besides inducing sleep and abolishing fear and worry it decreases the labored breathing, decreases the oxygen consumption and decreases the cardiac output which decreases the venous inflow to the heart and thus diminishes pulmonary congestion as shown by a rise in vital capacity. It does these things but depresses the sensitivity of the respiratory center.

The diet is also important. A good method is to institute treatment with the Karrel diet which consists of one glass of milk four times a day and no other food or drink. Cracked ice may be given for thirst. This simple diet is low in salt, protein, calories, and fluid and will usually start diuresis with the aid of the digitalis which the patient should be taking. After two or three days a soft solid diet may be given with the elimination of meat, eggs, fish or salt and the limitation of the fluid intake to 1,200 cc. daily. As the patient improves, a normal diet may be prescribed with limitation of the protein element to 40 Gm. daily, depending on whether there is nephritis also present. Fluids and sodium chloride should be restricted indefinitely until the patient is comfortable and the edema practically abolished. It has been shown that sodium chloride increases edema whereas potassium chloride decreases the edema. There are several salt substitutes on the market which may be used. Ordinary potassium chloride may be obtained and used in place of sodium chloride with beneficial results. For the chronic cardiac with congestive failure a high carbohydrate diet has been shown to be beneficial to the heart muscle. As the edema subsides a limited amount of salt may be used.

Digitalis

It has been one hundred and fifty years since William Withering introduced digitalis to the medical profession and although digitalis has probably been the subject of more pharmacologic study than any other drug in the pharmacopeia physicians are still not agreed as to the exact method in which digitalis benefits the patient.

Digitalis benefits patients with edema by

producing a diuresis, but how does it produce the diuresis? The majority of authors have been inclined to attribute the beneficial action of digitalis to an increase in the output of blood from the heart per minute. This, however, is not the case for it has been shown that in some patients with congestive heart failure the cardiac output is increased, in others it is decreased and in others digitalis failed to bring about a change in either direction in spite of the improvement of the patient following its use. The chief affect of digitalis upon the heart of a patient with congestive failure is a diminution in the size of the heart. All patients with congestive heart failure have either a dilated or an hypertrophied heart which leads to an increase in the venous pressure back of the failing chamber. The dilated heart is inefficient because it consumes more oxygen than does the normal heart in order to perform a given amount of work. Digitalis enables the heart to carry on its work with a smaller volume and thus diminishes dilatation and increases cardiac efficiency.

Is digitalis a cardiac stimulant or a cardiac sedative? This point has been debated since the time of Withering. At present we may say that in relation to its affect on the rate of the heart digitalis is certainly a sedative but in regard to its affect on the tone of the heart (resistance to filling) digitalis is a stimulant. A reduction in the heart rate may be of great importance in certain cases and especially in patients with auricular fibrillation since the irregular tachycardia wastes the energy of the heart and is harmful. In many cases, however, digitalis produces benefit with only slight slowing of the heart rate which action appears to be not as important as its affect on cardiac size. The elimination of pulse deficit, in patients with congestive heart failure and auricular fibrillation, tends to increase the efficiency of the heart but many patients with no pulse deficit are benefited by digitalis so this effect must be regarded as a secondary one.

Considerable work has been done on the action of digitalis and allied drugs on the coronary circulation. According to Macht

the alkaloids of digitalis differ in their action on coronary circulation. Digitoxin, which is soluble in alcohol, tends to cause coronary contraction; but digitonin, which is insoluble to alcohol, dilates the coronary arteries. This is my chief reason for not using tincture of digitalis in patients with congestive heart failure from any cause. The whole leaf of digitalis, containing no alcohol, rarely causes angina pectoris and is the best form of digitalis to use. A slowing of the heart beat in patients with irregular rhythm is generally attributed to a central action of digitalis on the vagus nerve centers but recently Heymans has shown that it is due to a reflex from the carotid sinus to the heart by means of the sinus and vagus nerves.

The affect of digitalis on the peripheral circulation is to decrease the blood volume. This may account for the decrease in cardiac output which occurs in some patients with congestive failure when they improve following digitalis. The increase in output which other patients exhibit is probably a result of the action of the drug on the heart. The chief indication for the use of digitalis in persons with cardiac disease is the presence of symptoms of congestive heart failure when the patient is at rest. In some cases digitalis does not always abolish the symptoms but most patients feel better taking digitalis than they do not taking it. Frequently striking diuresis occurs in patients with edema following rest and the administration of digitalis. If the patient can be made comfortable by means of rest and digitalis then no other drugs need be administered. Another symptom which so many patients with cardiac edema exhibit is paroxysmal attacks of dyspnea at night. Digitalis nearly always abolishes these seizures in persons who have developed them for the first time. The effect of digitalis may continue to be most beneficial for several months but as the disease progresses, it becomes less and less efficient. In some persons attacks of nocturnal dyspnea may continue in spite of digitalis administration but they are usually less severe than before the drug was given.

The fact that digitalis is not only helpful

in combating congestive heart failure but is also useful in preventing it or putting off the evil day does seem to have been accepted by the medical profession at large. We know that certain diseases are more prone to lead to congestive failure than others. Any disease which causes enlargement of the heart may be looked upon as a potential cause of congestive failure with edema. Hypertension, arteriosclerosis, rheumatic heart disease and hyperthyroidism may be mentioned as the chief offenders. Any person who suffers dyspnea when at rest or when performing routine duties which previously did not cause dyspnea should receive a preventive daily dose of digitalis. Most of these patients if properly examined will be found to have enlarged hearts. The maintenance dose of digitalis is from 1/10 to 3/10 Gms. daily, depending on the potency of the drug, the size of the patient and the size of the heart. The digitalis leaf in tablet or capsule form is the best form of digitalis to use and as the preparations of various companies vary slightly in potency it is best always to use the preparation of one particular company. There are two objective signs which when present even in the absence of dyspnea or other symptoms demand the use of digitalis. One is auricular fibrillation whether the rate is fast or slow, and the other is gallop rhythm, which indicates that the heart is either dilated or in the process of dilating and that congestive failure is imminent. The usual dose of digitalis is 1.5 to 2 Gms. of the powdered leaf over a period of forty-eight to seventy-two hours, followed by the maintenance dose mentioned above.

Contraindications to Digitalis

The only common contraindication to the use of digitalis in patients with cardiac failure is the presence of digitalis poisoning, which is usually manifested by loss of appetite, nausea, or vomiting, colored red or green vision, bradycardia, or the presence of pulsus bigeminus in which every alternate beat is an extrasystole. Occasionally pulsus bigeminus may develop in a person who has not had digitalis and in this case digitalis may be given with impunity. Digitalis should not be used in persons suffering from

shock or peripheral circulatory failure because of its diminution in cardiac output which is already low as a result of the hemorrhage or other circulatory failures. The tachycardia which results from peripheral circulatory failure is not a manifestation of cardiac weakness. In pneumonia we have a peripheral circulatory failure and hence digitalis should not be used in treating patients with pneumonia except in the presence of auricular fibrillation or flutter or enlarged heart. With congestive heart failure in patients with acute myocarditis digitalis should be used with caution but usually produces some benefit. When patients with thyrotoxicosis develop congestive heart failure digitalis should be used but it should not be used until the failure appears.

Surgery in Congestive Failure

Certain patients do not respond to therapeutic measures and remain for many months in a state of chronic cardiac congestion as a result of hyperthyroidism. Many of these cases are difficult to diagnose chiefly because of the vagaries of the basal metabolic tests. Removal of the thyroid gland in every case of chronic congestive failure will not result in improvement but it has been shown that in selected cases with a fair cardiac reserve and a fluctuating blood pressure a complete removal of the thyroid gland will reduce the metabolic needs of the body and decrease the disproportion between the demands on the heart and its ability to respond. It is thought that removal of the thyroid gland influences the adrenal gland causing a reduction in the amount of adrenalin passing through the circulation and thus lowering the blood pressure. If the blood pressure is fixed at high levels surgical treatment may be of little value in reducing it. Here it might be interesting to note that iodine administered to persons with hypertension or arteriosclerosis may produce its beneficial effect in the same manner as surgical removal of the thyroid gland.

Other Medical Treatment

A time honored measure is purgation with epsom salts. This method appears to cause improvement in most patients but

there is little clinical evidence in favor of its use for most authorities believe that it is sufficient if the patient has one daily soft bowel movement. Two points against the use of epsom salts continuously in this condition are the discomfort brought about by increased intestinal peristalsis and the great weakness resulting from its daily use, both of which keep the patient from securing adequate sleep and rest.

If after the first week of treatment with rest and digitalis the peripheral edema persists, the use of more powerful diuretics is indicated. They should be employed after complete digitalization. If there is marked ascites the abdomen should be tapped before using diuretics for they are much more effective when ascites is not present. Diuretics will be found to be more efficient when the edema is cardiac than if the edema is both cardiac and renal. The modern diuretics may be divided into two groups, the xanthine compounds and those of mercury. Some of the xanthine diuretics are theophyllin, aminophyllin, diuretin, theocalcin, and metaphyllin. The best known compounds of mercury are salyrgan, mercupurin, and mercurin. Recently a combination of theophyllin and salyrgan has been prepared which may be given intramuscularly. The theobromine preparations may be given by mouth while the mercury compounds are given intravenously, intramuscularly, or in the form of rectal suppositories. The intravenous, intramuscular and rectal administration of these diuretics produce a more profound result than the administration of theobromine preparations by mouth. The theobromine preparations frequently cause nausea and vomiting and are not well tolerated. The action of these mercury diuretics is greatly enhanced by the use of 15 grains of enteric coated ammonium chloride tablets four times a day for three days preceding the administration of the diuretic. The diuresis following the use of digitalis, ammonium chloride, and a mercurial diuretic is frequently very dramatic and usually occurs within two hours after the administration of the mercurial product and may continue for twelve hours. It must be remembered that patients with

heart failure may still have considerable hidden edema even after the disappearance of peripheral pitting of the subcutaneous tissue.

The mercurial diuretics are contraindicated in the presence of acute nephritis or if the nitrogenous content of the blood is unusually increased. Other contraindications to the use of mercurial diuretics are enteritis with diarrhea and mercurial allergy. The administration of a mercurial diuretic may be repeated every four to seven days if necessary. Diuresis sometimes fails to occur if the patient has a distended bladder from prostatic hypertrophy or other causes and it is important to catheterize all male patients at the time diuresis is begun if this is the case.

Occasionally phlebotomy is a valuable aid in treating congestive failure. The indications for phlebotomy are a congested liver with distention of the veins of the neck, and the absence of anemia. The removal of 500 cc. of blood may be a life saving procedure. Oxygen should be employed for the relief of dyspnea as a temporary measure or during the final hours when other measures have failed. In patients unable to retain food because of nausea and vomiting repeated small injections of glucose intravenously furnishes the heart muscle with nourishment and increases diuresis.

Angina pectoris cannot be given as a cause of death. George Dock, M.D., Pasadena, Calif., declares in *The Journal of the American Medical Association* for Aug. 12.

Pointing out that angina pectoris refers only to symptoms and not to a definite disease entity, Dr. Dock contends that whenever the term is used "it must be with the conviction that the name refers only to symptoms and demands a prompt and thorough differential diagnosis to exclude all other causes of pain, or to assign them their significance. Its adoption also necessitates an exact and persistent search for evidences of coronary disease and a prompt and intensive plan of treatment to meet all possibilities.

"There is a wish for a better name than angina pectoris, but until we have more exact knowledge of the minute processes I see no reason for change," the author affirms.

The term angina means a disease or symptoms characterized by spasmodic suffocating attacks, and the word pectoris refers to the chest. The author points out that "angina" was used as early as the sixteenth century to designate cases of quinsy or sore throat in which a feeling of strangling and anxiety entered. "Chest pain" was therefore an apt name for the group of symptoms that arrested the attention of William Heberden, who first used the term angina pectoris.

INFANTILE DIARRHEA

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We are entering the season of the year in which occur the great majority of the digestive disturbances in the infant. During the winter months the largest percentage of illnesses of infants and children are of respiratory nature. In the summer months the diarrheas and digestive disturbances are definitely most numerous. It is noteworthy that the change from diseases of respiratory nature to those of the gastrointestinal tract takes place quite suddenly in this climate. The change takes place with the onset of hot weather.

Due to the fact that it is evidently true there is a relationship between the weather and the diarrheas some interesting questions are presented. What are the factors which cause the diarrheas? How may these factors be overcome? What treatments are most effective?

There must be many causes for the increase in diarrheas during the hot weather. An infant's body has adjusted itself to the cool weather when a sudden or gradual change to warm weather is encountered. In some cases it must be that the infant is simply unable to utilize the food in the amounts which have been suitable to cool weather. There will frequently appear an intolerance to fat or carbohydrate which will cause a diarrhea due to undigested foods which cause irritation or fermentation. Some foods may be eaten with no ill effect during the winter but may not be easily digestible during the summer. Foods which have been kept very well with inadequate refrigeration during the winter months are exposed to heat, and chemical or bacterial changes take place which make these foods agents of diarrhea.

During the summer the water and milk supplies are more liable to contamination due both to more rapid bacterial growth and to an increase in the number of people infected with a corresponding release of more bacteria.

Read before the Fulton County Medical Society, Atlanta, June 6, 1940.

From the Department of Pediatrics, Emory University School of Medicine.

Prevention of Diarrhea

In the management of the infant it is much more important and simple to prevent a diarrhea than it is to treat a diarrhea or to try to bring a critically ill infant back to health. In fact the prevention is so very simple that many physicians never give it a thought, their time being occupied with more urgent demands. It is the duty of each physician who is managing a child's health to instruct the mother as to the simple but most highly important measures of protecting her child.

The methods of preventing infantile diarrhea are: Boil all water from wells of questionable source. All milk which is given to a child under two years of age should be boiled for at least three minutes with the exception of the evaporated or dried milks which are safe. All milk given to children over two years of age should be pasteurized or boiled. Cleanliness and care in the refrigeration of food is very important. The infant should be given only foods which he can handle such as strained foods for children under one year of age, or chopped foods for children from one to two years. Articles of food such as peanuts, corn, cucumbers, and green fruits which are indigestible should be strictly avoided. The parent should be taught to notify the physician at the onset of the diarrhea and not to wait until the child is critically ill. Treatment is usually more effective if instituted early.

Diagnosis of the Type of Diarrhea

The distinction between infectious diarrhea and non-infectious diarrhea is not always clear clinically. By infectious diarrhea is meant only the diarrhea which is caused by the bacillary dysentery bacillus. The non-infectious diarrheas include all the other forms of infantile diarrhea.

In the diagnosis of infantile diarrhea the history is of importance. One should question as to indiscretions of eating, too high fat or carbohydrate intake, the source of water or milk and also whether the latter has been boiled if of questionable origin.

In infectious diarrhea the onset may be slow, presenting mild diarrhea and abdominal pains with fever. Usually, however,

the onset is acute with high fever and frequent vomiting. The patient is very ill and if old enough complains of violent cramping abdominal pains in many instances. Shortly after this there begins the frequent stools numbering from a few to thirty or forty a day. These stools are characteristic in that they contain very little fecal material. There is the presence of blood, mucus, and much pus. Frequently there is a rather marked tenesmus. Soon follows toxemia, then dehydration and acidosis.

The other types of diarrhea are many and will not be described in detail. The mild diarrheas of overfeeding, fat or carbohydrate intolerance may be evidenced by only a few loose stools or may be more violent. The various stools of the non-infectious diarrheas may contain some blood, may be very watery and frequent, may vary in color from yellow to green, usually contain some mucus but rarely present as much pus as do the stools of the diarrheas of bacillary dysentery.

The final diagnosis of bacillary dysentery infections is made only by culture of the stools which may be done very easily and readily by a laboratory in the vicinity of the physician or by the State Board of Health laboratories. It is frequently of aid if the diagnosis of bacillary dysentery infection is suspected to do a proctoscopic examination and obtain material directly from the rectal mucous membrane for direct examination and culture.

CLASSIFICATION OF INFANTILE DIARRHEAS

I. Non-infectious diarrhea—

a. Acute intestinal indigestion.

1. Over feeding.
2. Nervous or other conditions affecting the nursing mother.
3. Low fat tolerance.
4. Low carbohydrate tolerance.
5. Mechanical—due to eating coarse or indigestible foods.
6. Reflex: due to difficult dentition, due to otitis media.
7. Hot weather.
8. Chemical—food sprays and spoiled foods.
9. Fermentative.

b. Acute intestinal intoxication and infection.¹

1. Toxins due to action of bacteria on food either before or after ingestion.
2. Bacterial infection other than bacillary.
 - a. Streptococcus.

- b. *Bacillus aerogenes capsulatus*.
- c. *Bacillus mucosus capsulatus*.
- d. *Bacillus pyocyaneus*.
- e. *Bacillus coli*.
- c. Other Causes.
 1. Tuberculosis of the intestine.
 2. Amoebic dysentery.
 3. Allergic diarrhea.
 4. Typhoid fever.
 5. Virus infections?
- II. Infectious Diarrhea (Bacillary Dysentery).
 - a. Bacillary Dysentery Bacillus.²
 1. Shiga-Exo and Endotoxins.
 2. Flexner-Endotoxin.
 3. Sonnei.
 4. Dispar?
 5. Schmitz.
 - b. Para Dysentery Bacilli
 1. Flexner type.
 2. Hiss type.
 3. Strong type.

Pathology, Biophysical and Biochemical Changes

The primary pathology in diarrhea is an inflammation of the intestine and occasionally the stomach. The degree of inflammation varies with the irritating activity of the material causing the diarrhea. In the case of the mild diarrheas with only a few loose stools there are no changes of importance in the other parts of the body. Healing is usually rather rapid with passage of the offending material. There are many diarrheas which are caused by foods which have undergone bacterial or chemical changes with the production of toxins. The absorption of these toxins through the intestinal wall causes first, a cloudy swelling of the liver because the portal drainage is into this organ. If the toxin is powerful enough there will be toxins to pass through the liver and into the general circulatory system. The organs of the body will then present evidence of acute toxemia. The heart muscle will be softened and swollen and the spleen and kidneys will present cloudy swelling.

In the case of the severe diarrheas the inflammation of the intestinal mucosa is so intense that the capillaries rupture with oozing of blood into the lumen of the bowel.

In the diarrheas of bacterial origin invasion of the mucous membrane of the ileum or colon frequently takes place. In this event there is the presence of open

lesions and soon ulceration takes place. There is then present what is usually spoken of as ileo-colitis or colitis. It is possible for ulceration to be caused by excoriation of the mucosa by agents other than of bacterial origin.

It is surprising the number of cases seen at autopsy in which the area of intestine involved is very slight with a mild degree of edema. The cause of death in these children may be due to toxemia.

In addition to the changes in the intestinal wall there is a passage of body fluids from the tissues into the blood stream and then into the intestine where they are eliminated by the frequent bowel movements. These body fluids carry some of the electrolytes of the body into the intestine and there results acidemia and anhydremia. According to Wright several factors are probably involved³: Due to the decreased water content of the blood the circulation through the kidneys is slowed down, renal excretion becomes imperfect and phosphate retention occurs. Because of tissue anoxemia lactic acid or other organic acids derived from incomplete oxidation may pass into the blood. A certain amount of ketosis may be present. An excess of base compared with acid may be lost in the stools. Maizels and M'Arthur⁴ suggest that the appearance of acidemia or alkalemia in acute diarrhea depends on the relative loss of water and salt. When water loss predominates anhydremia and acidemia are found. When more salt is lost than water, bicarbonate is retained to restore plasma osmotic pressure and alkalemia with an acid urine results.

Treatment

Due to the fact that there are numerous causes of diarrhea many physicians feel at a loss as to the method of treatment which should be employed. This uncertainty is a decided disadvantage and is not necessary.

All diarrheas, no matter what the cause, have several common factors:

1. The abnormal frequency of stools with the loss of body fluids.
2. Loss of electrolytes.
3. Irritation and inflammation of the gastro-intestinal tract.
4. In most severe cases there is toxemia.
5. In most severe cases there is acidosis or a tendency toward acidosis.

Considering the above factors it certainly can be said that in treating a diarrhea no matter what the etiology, one must bear in mind the changes taking place in the child's body due to the diarrhea and logically try to overcome these conditions.

A purgative such as castor oil, or calomel is not to be given under any circumstances because the mucosa of the intestine is already irritated and the bowels are emptying very readily of their own accord due to this irritation. To give an irritating purge is only to add insult to pre-existing injury. A purgative may do much more harm than good. If the child is seen early a mild laxative such as milk of magnesia may be given with safety.

There should be no attempt to check the bowels by using paregoric or bismuth because to do so will cause an accumulation of the diarrheal agent in the bowel with an increase in toxicity of the patient.

The loss of body fluids should be compensated by the giving of diluted milk formulas by mouth in the mild cases, or giving subcutaneous saline and dextrose or Hartman's solution in the moderate cases. In the severe cases the fluids are given either subcutaneously or intravenously and in the critical cases a continuous intravenous drip should be used. Transfusions should be given in some moderate and all severe cases.

The loss of electrolytes is compensated by the use of the saline, dextrose or Hartman's solution. The degree of acidosis or alkalosis may be determined by doing a CO_2 combining power of the blood.

In the very mild diarrheas caused by over-feeding, hot weather or excess of fat or carbohydrate it is frequently necessary only to decrease the amount of total food, to reduce or omit added carbohydrate of a formula, or reduce the fat in the milk formula by skimming or partly skimming the milk. In the diarrheas of more severe nature the treatment is a little more complicated but still simple.

During the past few years there has been introduced in the treatment of diarrheas the giving freely of scraped mellow raw apple, and this has proved to be a very ef-

fective form of treatment. Due to difficulties in obtaining apples there have been placed on the market numerous dried and powdered apple preparations which are effective but not very palatable. During the past few months there has been placed on the market a pectin, agar, carbohydrate mixture which seems to be taken more readily by the children and is obtainable at all drug stores.⁵

The use of high protein formulas is very useful in many diarrheas. These formulas are usually prepared by the use of one packed level tablespoon of the dried protein milk with each three ounces of water. The addition of one grain of saccharin to the quart of formula will make it more palatable. A powdered protein milk may be added to either skimmed milk or to buttermilk with good results in many cases.

In mild or moderate cases in which there is no fermentation in the stools one may use well cooked rice or other starchy cereal with good results.

When intense colicky abdominal pains are present a hot water bottle or ice bag will give some relief. If the pains are quite severe atropine or codeine may be used. In the event these drugs are used they should be discontinued as soon as possible to prevent stasis of the intestines. Tenesmus may frequently be relieved by the use of an anesthetic ointment applied directly to the rectal mucosa.

Excoriation of the buttocks is caused by the irritating nature of the many stools. The excoriated areas may be quite painful to the child and are at times very extensive. The simplest and most effective treatment is to cleanse the area thoroughly after each bowel movement. The irritating stool is removed by washing with bland soap and water. The soap must then be carefully rinsed off. The raw area is dried and a thick layer of plain white vaseline is applied. The vaseline being thick and adherent acts by protecting the affected area against the next stool.

For purposes of treatment it is best to divide diarrheas into classifications as to severity rather than etiology. This greatly simplifies the management of the cases

usually seen. One must remember, however, that individual cases must be handled as such if occasion arises.

The simplest classification seems to be 1, mild diarrhea; 2, moderately severe diarrhea; 3, severe diarrhea.

TREATMENT OF MILD DIARRHEA (Infant)

1st day—Omit food and milk. Give 5 per cent dextrose water or rice water.*

2nd day—Boiled skim milk and water equal parts. Weak tea.

3rd day—Skim milk 2 parts and water 1 part. Cream of wheat. Beef broth. Scraped mellow apple.

4th day—Increase strength of skim milk. Saltine cracker. Buttermilk.

5th day—Mashed banana. Fruit juice. Later gradually add fat and carbohydrate to formula and return to normal diet. Average takes 6 to 10 days.

*Rice water is prepared by placing 2 tablespoonfuls of rice in one quart of water and cooking in a double boiler for two hours. Water will have to be added at times to prevent boiling away. At the end of two hours it is strained and water added to make a quart. The rice water may be salted to taste or sweetened with one grain of saccharin to the quart.

TREATMENT OF MODERATELY SEVERE DIARRHEA

A. By mouth give 5 per cent dextrose water or normal saline.

B. Subcutaneous or intravenous injections of Hartman's solution or dextrose in saline.

C. Cleansing enemas.

D. Transfusions if needed.

As the condition improves one may use a schedule as just given with changes to suit the case.

TREATMENT OF A SEVERE DIARRHEA

A. Stimulants: Caffeine or coramine.

B. Continuous intravenous drip of Hartman's solution or saline with dextrose.

C. Transfusions.

D. Cleansing enemas.

E. Dextrose water or saline by mouth.

Comment

The classification of diarrheas as given in this paper is confusing in that the infectious diarrheas contain only the diarrheas caused by the bacillary dysentery bacillus, while the diarrheas caused by infections due to other types of organisms are classified under the non-infectious group. The reason for this discrepancy is that today common usage classifies the diarrheas in this manner, and also there is an advantage in that the method as used is very simple. To be scientifically correct the infectious diarrheas should also include the latter group in question.

If one remembers that there are certain changes which take place in the body due

to diarrhea no matter what the etiology, and the treatment is directed towards correcting these changes, the handling of the diarrheas will be simplified. This should be of advantage to the physician handling a case because he does not have to bear in mind a separate method of treatment for each type of diarrhea.

The forms of diarrhea which are not usually considered as infantile diarrhea are grouped under non-infectious diarrhea due to other causes. These conditions must be handled by methods other than those given in this paper with the exception of the diarrheas caused by virus infections which may be managed as the other forms of infantile diarrhea in most instances.

The diarrheas due to allergy must be treated as outlined and in addition the allergin causing the condition must be determined and removed from the diet. The elimination diet is very useful in correcting diarrheas of allergic nature.

The education of the public as to the prevention of diarrheas is now chiefly in the private physician's hands and it is his duty to attend to this important part of preventive medicine. This should be equally as carefully done as the more objective preventive measures such as immunization against diphtheria, typhoid fever and smallpox. A simple manner of achieving this end is to make it a rule that the parent of the child shall be cautioned during the first visit in the late spring or early summer as to the care of water and milk supplies and the other measures that have been mentioned.

Summary

Infantile diarrheas are seasonal diseases occurring most frequently during the summer months. The prevention of diarrhea is chiefly in the physician's hands and it is his duty to instruct the parent as to the methods of prevention. Diarrheas are divided into the infectious and non-infectious groups according to etiology.

The pathology is primarily an inflammation of the intestinal tract. Due to absorption of toxins there are toxic changes in the other organs of the body. There is loss of body fluids and electrolytes with resulting dehydration and acidosis.

There are some general considerations to be remembered in treating a diarrhea: Replace lost fluids and electrolytes. No purgative is to be given. Gradually increase the strength of the mixture of food given by mouth. Do not try to check the bowels with paregoric or bismuth. Diarrhea is much easier to prevent than to cure. Boil all milk given to a child under two years of age. All milk given to a child over two years of age should be pasteurized or boiled. All water from a questionable source should be boiled.

Conclusions

1. The factors producing infantile diarrheas are: Hot weather with decrease in ability of child to handle certain foods. Increase in bacterial growth. Inadequate refrigeration and chemical or bacterial changes in food.
2. The prevention of infantile diarrhea is important and fairly simple.
3. It is the physician's duty to instruct the parent as to the methods of prevention.
4. All diarrheas have several common factors and the treatment should be directed toward correcting these.
5. The treatment of infantile diarrhea varies with the severity of the diarrhea and not as to the etiology.

REFERENCES

1. Griffith, J. P. C., and Mitchell, A. G.: *The Diseases of Infants and Children*, Philadelphia, W. B. Saunders Company, 1933, chap. 6, p. 581.
2. Stitt, E. R., Clough, P. W., and Clough, M. C.: *Practical Bacteriology, Haematology and Animal Parasitology*, Philadelphia, P. Blakiston's Son & Co., 1938, chap. 5, p. 125.
3. Wright, Sampson: *Applied Physiology*, Oxford University Press, chap. 4, p. 237, 1931.
4. Maizels and M'Arthur, Quart. J. Med., vol. 22, p. 581, 1929.
5. Winters, M., and Tompkins, C. A.: A Pectin Agar Preparation for Treatment of Diarrhea of Infants, *Am. J. Dis. Child.* 52: 259-265, (Aug.) 1936.

"Breast milk can furnish to the baby only such vitamins as are taken in the mother's food," *The Journal of the American Medical Association* for March 30 points out in answer to an inquiry as to whether or not such milk contains sufficient vitamins for the infant, and if so for how long a time.

"It is therefore obvious that, unless the mother has a diet rich in vitamins C and D, she will not furnish an adequate supply of these vitamins to the baby. It is for this reason that it is strongly advisable to begin both orange juice and some form of vitamin D early in infancy. As it takes some time for either a vitamin C deficiency—that is, scurvy—or a vitamin D deficiency—that is, rickets—to develop it is impossible to say for how long a time the mother's milk alone would be adequate to protect a newborn baby. The only safe procedure is to take no chance and to supply these vitamins from earliest infancy on."

THE USE OF NICOTINIC ACID IN PELLAGRA AND OTHER CONDITIONS

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Pellagra was originally described by Gaspar Casal, a Spanish physician, in a book written in 1735 but not published until 1762. This disease was called "Mal de la rose" or "rose sickness." In 1771 Francesco Frapolli, an Italian physician, published a description of pellagra, in which he gave the malady its present name. Through all of the years the etiology remained unknown although in later years some theories of it being due to a lack of vitamin were offered by some observers. About 1914 Goldberger and his associates proved this disease to be an avitaminosis and showed that definite improvement and cure following the administration of brewers yeast. Later this factor was identified as a part of the vitamin B complex.

Guha¹ could not agree that pellagra was due to such a deficiency, nor that it was due to a simple iron deficiency as some claimed. He thought that the disease was a complex syndrome arising from an association of various factors in which an antipellagra factor or Goldberger's P-P factor was the main but not the sole element. He thought that the P-P factor was identical with vitamin B. This article was published in 1931.

In 1933 Spies and Grant¹⁷ found a substance in desiccated hog stomach, which protected experimental rats from an inadequate diet. They classed this as vitamin G. Vitamin B and vitamin G both contain a factor that protects against a pellagra producing diet.

No attempt will be made to review the entire literature of pellagra, although some authorities will be cited. It is believed that the P-P factor of Goldberger is essentially the substance that we call nicotinic acid. Under Current Comment, editorial section of the *Journal of the American Medical Association* of Oct. 9, 1937, attention was called to the isolation by Elvehjem and his co-workers² at the University of Wisconsin

of nicotinic acid amide from active liver concentrates. This crystalline compound was found to be highly active in the cure of experimentally produced black-tongue in dogs. They found that nicotinic acid prepared synthetically from the amide was also therapeutically effective in this condition. In closing the editorial suggested, "The phenomenal response of canine black-tongue to nicotinic acid and to nicotinic acid amide will stimulate careful investigation to determine their possible clinical value in cases of human pellagra."

The interest of investigators was soon manifested by the appearance of reports of the use of this drug. Among the first in time of appearance was the report by Smith, Ruffin and Smith¹² of a case of pellagra successfully treated with nicotinic acid. A patient with endemic pellagra with anorexia, dermatitis, sebaceous gland changes and dementia made a surprising recovery after being under treatment for twelve days. They emphasized the low cost of treatment as well as the short period of time necessary. They made another interesting suggestion, but one that has not been followed, judging from the absence of mention of it elsewhere in the literature. This was that nicotinic acid could be mixed with table salt and sold especially in areas where pellagra is endemic, in a manner similar to which "iodized salt" is distributed in districts in which goiter is endemic.

Spies¹³ made an early contribution of his observations on a group of 15 patients. In this group he found that under the administration of nicotinic acid there promptly followed remission of pellagrous glossitis, stomatitis, pyalism, vaginitis, urethritis and proctitis, and disappearance of the increased porphyrinuria. It was noted that none of these symptoms returned so long as the patient continued to take the nicotinic acid, even though he had only basic diet. The same results were reported by Spies, Cooper and Blankenhorn¹⁴. They used a crystalline nicotinic acid and at first administered it in aqueous solution by mouth, gradually increasing the dosage. It was begun at a few milligrams per day and in some instances was increased to 200 mg.

per day. They reported a reaction that developed in some individuals. This was characterized by severe flushing, itching and tingling especially in the region of the face and in the extremities. These manifestations began about 20 minutes after administration of the drug and usually followed ingestion of larger doses. These symptoms subsided rapidly and left no residual changes. Later the drug was given intravenously in a solution of sterile physiologic salt solution. In this presentation they were cautious about recommending the use of doses larger than 80 mg.

It was about this time that I became interested in this form of therapy. I had found the use of brewers' yeast extremely slow in its results in the ambulatory cases that were seen in the out patient clinic. In these cases the recognized recommendations as to diet and hygiene were made, but there was little chance of these recommendations being carried out with the means and in the environments in which most of these patients lived. The use of yeast with anti-pellagic diet in ward patients was also not very satisfactory. Nicotinic acid was not on the market but a small supply was finally secured and its use was begun in the wards. It is unfortunate that no definite procedure was established and followed and for this reason the records are not scientifically reliable. However, after several failures with pellagrins in coma manifesting the picture of severe cardiorenal disease, it was thought that the dosage was too low. The very first case under a dosage of 300 mg. per day intramuscularly showed definite improvement in spite of an apparently hopeless condition. Subsequently large total daily doses were administered with satisfactory results to severe cases. If oral treatment was not possible, the drug was given intramuscularly but was never given intravenously.

Improvement of mental symptoms was at times surprising. One case made a dramatic impression. It was an old negro man with a badly failing heart. Because of his mental condition it was impossible to keep him in bed, which was bad for his cardiac condition. He had the thickened scaliness of the

forearms and for this reason was put on nicotinic acid. After a few days of oral administration his mental condition cleared and it was possible to keep him at rest, with improvement of his heart resulting. Spies, Aring, Gelperin and Bean¹⁴ reported their observations on the effect of nicotinic acid on the mental condition of pellagrins. They found that nicotinic acid in adequate amounts was a specific therapeutic agent for the acute mental symptoms of pellagra. They pointed out that coramine, the diethyl amide of nicotinic acid, was also beneficial in the treatment of the abnormal mental conditions.

Stomatitis is a fairly constant symptom of pellagra. It may be seen without skin or other components of the symptom complex as well as with them. Manson-Bahr and Ransford⁹ pointed out that pellagra varies in its appearance and manifestations in different races and in different parts of the world. In the absence of strong sunlight as in northern and temperate countries the skin lesions do not become apparent, but the pellagrous condition exists nevertheless. These authors pointed out that many minor conditions not previously regarded as pellagrous become dovetailed into the B₂ deficiency complex. They are characterized by an inflammation of the digestive tract with stomatitis and chronic diarrhea. A small, rather pointed, angry red tongue with eczematous excoriations at the angles of the mouth and a leukoplakic condition, or perleche, of the lower lip may be considered as pathognomonic of the pre-pellagrous state. Sometime ago I was consulted by a woman who in a way exemplified this type. She had a stomatitis and ulceration of the pharynx. The latter had been treated by local applications for between two and three months. She had sores in the angles of her mouth. The skin of her face and forearms was definitely thickened. There were radiating lines extending from both lips, or rhagades. There was very little pigmentation and very little desquamation of the forearms. However, on nicotinic acid in conjunction with thiamin chloride, the pharyngeal ulcers healed in three or four days and the other symptoms improved

under longer treatment. Her general health and appetite improved, but some of the symptoms recurred after the drug was discontinued for some time.

Conditions such as neuritis, stomatitis, vague and various gastric and intestinal symptoms are often met in practice and it may prove difficult to trace the etiology. Many of these are cases in which there is one predominant symptom of an otherwise mild or subclinical form of pellagra. At this point I wish to emphasize that it is not only the underprivileged and poorer element of our population that suffer from pellagra. People who follow irrational dietetic fads for one reason or another, alcoholics whose dietetic intake is low because of the ramifying effects of alcoholic abuse, those of strong and numerous dietetic dislikes are all potential cases of mild or even of severe pellagra. There are some persons who, in spite of diets well balanced in all respects, manifest evidence of some a vitaminosis. Such individuals either have an inherent fault in their metabolic machinery or their requirements are excessive. Therefore in all walks of life there are many potential pellagrins, and these may manifest the widest degrees of involvement.

The question of subclinical pellagra has engaged the attention of Spies, Bean and Stone¹⁵, along with the classic type and the mental symptoms. Sydenstricker¹⁶ was an early observer of the effects of administering this drug. Spies, Grant, Stone and McLester¹⁸ reported on their observations in the treatment of 600 cases of pellagra not only from the standpoint of active therapy but also considering its value as a prophylactic. They pointed out that it has long been realized that pellagrins, especially those of poor economic status, are prone to have recurrences every year. Because of the response of their patients to nicotinic acid they felt that its deficiency plays the prominent role in the development of the deficiency manifestations. There is a great deal concerning the action of nicotinic acid as well as concerning the nature of pellagra that is still unknown. However, because of the low cost, ease of administration by mouth and the rapidity of response it would

seem a logical prophylactic procedure for use in those susceptible to the disease. The only argument that can be presented against its use is the fact that reactions occur, but these are usually of comparatively slight discomfort and very transitory in duration and are greatly overbalanced by the benefits given. It was interesting that a patient of mine who was having reaction following the ingestion of nicotinic acid before meals discovered that no reaction occurred when the same dose was taken after eating.

There is a great deal more that might be said of the use of nicotinic acid in pellagra as well as of the use of this drug in combination with other essential factors in interlocking deficiency states, but I wish to call attention to the use of this drug in a number of other conditions. Tisdall, Drake and Brown²⁰ pointed out that although acrodynia and pellagra are distinct clinical entities, there is a superficial resemblance between the two diseases. They both have skin lesions and they both have involvement of the mucous membranes of the mouth. They attempted to determine whether nicotinic acid, which is now conceded to be a member of the vitamin B complex, was of value in the treatment of acrodynia. They found the negative result by their study, namely that nicotinic acid had no demonstrable effect on the clinical course of the disease as a whole. Fuchs and Wisselink⁴ reported a negative result in the treatment of sprue.

Mainzer and Krause⁸ commented that recent developments in nutrition have given a different viewpoint on some of the results of alcohol addiction. Formerly these disturbances were considered to be due to the toxic effects of alcohol, but now it is considered largely a manifestation of a nutritional deficiency or avitaminosis. They reported a case in which remarkable improvement followed the use of nicotinic acid, so that they assumed that lack of this vitamin was an important factor in the development of delirium tremens. This might be considered as insufficient evidence on the basis of one case report but good results in drunken persons following the intravenous or intramuscular injection of thiamin chloride,

which has come to be quite generally administered in such cases, suggests that some of the effect of alcohol is dissipated by the use of certain vitamin elements.

Some types of deafness have been ascribed to lack of certain vitamins. Selfridge¹⁰ stated that Covell's studies of the different fractions of the B complex indicated that lack of the filtrate factors, which lead to chick dermatitis and probably to blacktongue in the dog, causes a greater amount of degeneration of both branches of the eighth nerve than is seen in B₁ deficient rats. He found that more improvement in air conduction and bone conduction audiometric curves followed the use of nicotinic acid than the use of vitamin B₁ or riboflavin. In another contribution the same author¹¹ confirmed his previous observation in eighth nerve deafness. He pointed out that the eighth nerve is a peripheral nerve and the cochlea is its end-organ, and it is subject to the same degenerative changes as well as the various disease and toxic conditions related to neuritis elsewhere. He felt that underlying nutritional deficiency could explain these nerve changes and all the cases observed by him gave a history of faulty diets. He found that thiamin chloride was an essential addition to nicotinic acid for the increase in the hearing curve, but that the greatest improvement came from the use of nicotinic acid or sodium nicotinate and only rarely was the greatest improvement due to thiamin chloride. However, he thought that all of the factors of the vitamin B complex might play a part.

Because vaginitis is often present in pellagra and because nicotinic acid relieved this manifestation in pellagrins Dabney² decided to test the effect of nicotinic acid upon other vaginitis cases in which no etiologic cause could be demonstrated, and particularly those of the pruritis vulva type. About half of these cases showed definite improvement, but no claim is made that they were cases of subclinical pellagra but it was thought that they should be classed as B-deficiency cases and to suspect that, if depletion of vitamin B should progress far enough, true pellagra might develop.

Cleckley, Sydenstricker and Geeslin¹ made observations of 19 individuals presenting mental symptoms of somewhat similar pattern but none corresponding to the ordinary conception of pellagrous dementia. These cases resemble the first ones treated by me except that in mine there were some earmarks of pellagra as has been indicated above. Hebetude grading into profound stupor was a feature so prominent that frontal lobe tumor was suspected in three patients, lethargic encephalitis in one and chronic subdural hematoma in a third. Delirium was present three times, agitated depression once, and one patient presented the signs of central neuritis. Signs of peripheral neuritis were not observed, but in five patients marked deafness disappeared under treatment. However, it was not possible to determine whether this transient deafness was due to failure of attention or to actual interference with the auditory mechanism. They felt that the results justified the assumption that the stupor was due to specific deficiency of vitamin. Such patients are often diagnosed as cerebral arteriosclerosis and usually treated in a perfunctory manner until death ensues as a result of bronchopneumonia.

It has been found that the ill effects of sulfanilamide administration can be decreased by the administration of nicotinic acid. This is especially true of the mental symptoms. We had a very striking example recently when inadvertently through duplicate services a patient received both sulfanilamide and sulfapyridine for several days before the double orders were realized. He manifested definite mental changes. Under administration of nicotinic acid intravenously at first and later orally in a few days his mental symptoms had disappeared. McGinty, Lewis and Holtzclaw⁷ call attention to the marked increase of porphyrinuria in pellagrins and in individuals receiving drugs of the sulfanilamide group. They found that the administration of nicotinic acid to such patients was most gratifying in the decrease of unpleasant symptoms and the porphyrinuria. The clearing of the mental state was most outstanding. In just what manner these results are obtained is not known.

Another group of cases characterized by increased porphyrinuria but showing no other similarity to pellagra or sulfanilamide administration are the cases of radiation reaction. Graham⁵ commented that the cause of radiation sickness had not been determined, but that the absorption of toxic substances from the breaking down of tissue cells seemed to be a justifiable theory. This phenomenon is encountered most frequently in abdominal and thoracic applications. In my own experience great benefit has been observed following the use of nicotinic acid as an active therapeutic agent in the vomiting and diarrhea of radiation sickness as well as a prophylactic measure against the development of these associated manifestations. Prompt improvement and disappearance of the gastrointestinal symptoms has followed the intravenous administration of nicotinic acid. As examples of the prophylactic use of the drug I wish to briefly outline two cases treated in our x-ray department. A patient who had been operated on for malignant cyst of the ovary had to discontinue x-ray treatment because of vomiting, diarrhea and nervousness when less than half the estimated dosage had been given. After a rest period of several weeks x-ray treatment was started again after prophylactic administration of nicotinic acid and thiamin chloride by mouth for two weeks prior to beginning of and continuing during the x-ray therapy. In contrast to poor response to thiamin chloride intramuscularly and intravenously in this patient during the first period of treatment there was very little of the reaction manifestations in the second attempt at treatment so that the estimated dosage could be administered. Another patient with malignant papilloma of the bladder developed vomiting and diarrhea during x-ray treatment so that it had to be discontinued. A similar benefit was observed in him under nicotinic acid and thiamin chloride and he was able to complete the course of treatment with comparatively little hardship.

From this rather superficial consideration of nicotinic acid it is evident that the administration of the drug is beneficial definitely in pellagra and also in a number of

other conditions. There is a great deal of deficiency in our knowledge concerning the mode of action of the drug. When these points are elucidated, there may be evidence of why it is beneficial in these other conditions, some of which bear very little similarity to pellagra. Finally the strongest argument in favor of the use of nicotinic acid, both in conditions in which it is of proved value and also in conditions where there may be some question of its effectiveness, is the lack of severity of reaction and the absence of severe after effect of the drug. At most the reaction is annoying but very transient.

BIBLIOGRAPHY

1. Cleckley, H. M.; Sydenstricker, V. P., and Geeslin, L. E.: Nicotinic Acid in Treatment of Atypical Psychotic States Associated with Malnutrition, *J. A. M. A.* 112: 2107-2110 (May 27) 1939.
2. Dabney, M. Y.: Use of Nicotinic Acid in Idiopathic Pruritis Vulvae, *South. Surgeon*, 8: 232-239 (June) 1939.
3. Elvehjem, C. A.; Madden, R. J.; Strong, F. M., and Wooley, D. W.: Relation of Nicotinic Acid and Nicotinic Acid Amide to Canine Black Tongue, *J. Am. Chem. Soc.* 59: 1767, 1937.
4. Fuchs, H., and Wisselink, A.: Versuch der Behandlung eines Falles von Sprue mit Nicotinsäure, *Klin. Wchnschr.* 18: 722-723 (May 20) 1939.
5. Graham, J. W.: Radiation Sickness; Treatment with Nicotinic Acid, *J. A. M. A.* 113: 664-667 (Aug. 19) 1939.
6. Guha, B. C.: Vitamin B₂ and Pellagra. The Etiology of Pellagra. *Brit. M. J.* 2: 53, 1931.
7. McGinty, A. P.; Lewis, G. T., and Holtzelaw, M. R.: Symptoms Occurring with Sulfanilamide Relieved by Nicotinic Acid; Preliminary Report, *J. M. A. Georgia*, 28: 54-55 (Feb.) 1939.
8. Mainzer, F., and Krause, M.: Nicotinic Acid in Treatment of Delirium Tremens, *Brit. M. J.* 2: 331-332 (Aug. 12) 1939.
9. Manson-Bahr, P., and Ransford, O. N.: Stomatitis of Vitamin B₂ Deficiency Treated with Nicotinic Acid, *Lancet* 2: 426-428 (Aug. 20) 1938.
10. Selfridge, G.: Nicotinic Acid and Eighth Nerve; Preliminary Report, *Ann. Otol. Rhin. & Laryng.* 48: 39-53 (March) 1939.
11. Selfridge, G.: Eighth Nerve in Relation to Thiamin Chloride and Nicotinic Acid; Comparative Study, *Ann. Otol. Rhin. & Laryng.* 48: 419-432 (June) 1939.
12. Smith, D. T.; Ruffin, J. M., and Smith, S. G.: Pellagra Successfully Treated with Nicotinic Acid; Case Report, *J. A. M. A.* 109: 2054-2055 (Dec. 18) 1937.
13. Spies, T. D.: Response of Pellagrins to Nicotinic Acid, *Lancet* 1: 252-253 (Jan. 29) 1938.
14. Spies, T. D.; Aring, C. D.; Gelperin, J., and Bean, W. B.: Mental Symptoms of Pellagra: Their Relief with Nicotinic Acid, *Am. J. M. Sc.* 196: 461-475 (Oct.) 1938.
15. Spies, T. D.; Bean, W. B., and Stone, R. E.: Treatment of Subclinical and Classic Pellagra; Use of Nicotinic Acid, Nicotinic Acid Amide and Sodium Nicotinate, with Special Reference to Vasodilator Action and Effect on Mental Symptoms, *J. A. M. A.* 111: 584-592 (Aug. 13) 1938.
16. Spies, T. D.; Cooper, C., and Blankenhorn, M. A.: Use of Nicotinic Acid in Treatment of Pellagra, *J. A. M. A.* 110: 622-627 (Feb. 26) 1938.
17. Spies, T. D., and Grant, J.: An Experimental Study of a So-Called "Pellagra-Producing" Diet, *Am. J. Physiol.* 104: 18, 1933.
18. Spies, T. D.; Grant, J. M.; Stone, R. E., and McLester, J. B.: Recent Observations on Treatment of 600 Pellagrins with Special Emphasis on Use of Nicotinic Acid in Prophylaxis, *South. M. J.* 31: 1231-1237 (Dec.) 1938.
19. Sydenstricker, V. P.: Nicotinic Acid in Prevention and Treatment of Pellagra, *J. M. A. Georgia* 27: 321-322 (Aug.) 1938.
20. Tisdall, F. F.; Drake, T. G. H., and Brown, A.: Nicotinic Acid in Treatment of Aerodynia, *J. Pediat.* 13: 891 (Dec.) 1938.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

INTENSIVE FRACTIONAL TREATMENT OF EARLY SYPHILIS

A Preliminary Report

JOHN S. HOWKINS, M.D.
Savannah

I would like to present to you briefly the treatment chart of "Tommy Young," a routine patient with secondary syphilis applying to the Savannah City Clinic for treatment. This chart is repeated hundreds of times in our clinic files. From our modern standards a ridiculously inadequate amount of treatment. The peculiar part of this story is that the man is well both clinically and serologically, and has been well for nine years. The only treatment he has ever had is shown. With the accumulation of charts identical with "Tommy's" the opinion has long been forced on me that arsenic alone and unaided is easily able to effect a cure in early syphilis. The idea of treating syphilis intensively is not new. In fact, "Ehrlich" years ago believed that one large sterilizing dose of salvarsan was sufficient to kill all spirochetes present and for years the medical profession agreed with him.

Two years ago we had a talk here before our Medical Society describing the "Continuous Glucose-Neoarsphenamine Drip Method" being tried in New York. That they obtain wonderful results I do not doubt. The method is expensive, tedious, necessitates hospitalization and constant nursing care. All of which is beyond the reach of the patient with early syphilis in our community, and presents difficulties beyond the demands of necessity. It occurred to me that this procedure could be simplified to fit the expense, time and work functions of the average patient and physician and still accomplish the empirical desideratum of pumping into the circulation a safe curative amount of arsenic in the shortest amount of time. To reach a simple solution to this problem has not been difficult but the process has been long and is still evolving. The main difficulty has been closely associated with the dis-

tribution, storing and elimination of arsenic about which we know little. There are many qualitative articles in the literature on the elimination of arsenic but as yet I have been unable to find quantitative ones. The facts that are established are inadequate. After injection of a single dose of neoarsphenamine there is no trace of arsenic in the blood stream after fifteen minutes. The urine contains arsenic for twenty-four hours. Probably 70 per cent is excreted into the intestine over a much longer period of time. The "Index Medicus" is reticent and the fact remains that we know less about the fate of arsenic than we do about the relatively unimportant subject of lead poisoning.

It has long been my custom to hit hard and fast any patient with an open lesion of early syphilis. This was not done with the idea of quick cure but for sterilization purposes only. This is also our clinic routine here. At first 3 large doses were given in a week and then continued with weekly injections. For the past six or seven years I have given 3 standard sized doses of neoarsphenamine within 4 days. This amount is remarkably well tolerated and represents about 2.5 Gm. of neoarsphenamine in 4 days in 3 doses. This amount can be given routinely in clinics. The plan which I now submit to you appears practical, safe, comparatively inexpensive and apparently effective but not to be attempted under clinic conditions. The patients treated in this series have all been private cases. Routinely I have given for many years 2.5 Gm. of neoarsphenamine in 4 days. I decided that this amount could be increased 50 per cent and administered in smaller doses in the same 4 day period. This results in giving 1 Gm. of metallic arsenic or 4 Gm. of neoarsphenamine in 4 days. A safe, I hoped, concentration, far in excess of any we might reach by our more sedate methods. Empirically: 4 Gm. of neoarsphenamine administered to a 140 lb. individual of suitable age to tolerate arsenic gave me the figure of .03 Gm. of neoarsphenamine per pound of body weight. To reach the amount so chosen has been my aim in this series of cases. For various

reasons all cases have not been able to take the arbitrarily set figure of .03 Gm. per pound of body weight in 4 days. In some cases the full amount has been administered in two to three days additional and in one case the course had to be terminated because of exfoliative dermatitis. On the whole, however, they have stood the course remarkably well and without serious accident.

The rationale for an intensive treatment is based on the assumption that all spirochetes in the body will be killed if the drug can be concentrated sufficiently for a long enough time. We are working with a host of unknown quantities. In the drug we have the toxicity titrated against—rats. The spirochetocidal properties are known approximately. In regard to excretion, concentration, accumulation and distribution of arsenic in the human body we know little. The intestines excrete probably 70 per cent of injected arsenic. The rest is excreted by the kidneys, sweat glands and lungs in order named. These facts provide the reason for catharsis, diuresis, moderate exercise and fresh air to encourage the elimination of utilized arsenic. That there is a threshold for arsenic in our economy above which it is eliminated at a much more rapid rate is very probable. Where this threshold is I do not know.

The rate of elimination of arsenic is not definitely known. Probably 50 per cent of a single injection is utilized and passed into the intestines and urine within the first 24 hours. The rest is bound up in some way to be eliminated at a much slower rate. Abnormal amounts have been found in urine one month after a single injection. With these facts or rather the lack of facts in mind I have empirically selected the figure: .03 Gm. per pound body weight to be administered in 96 hours. For example: 4.5 Gm. in a suitable patient weighing 150 lbs. to be given in 4 days. That this figure empirically selected suffices, I hope to bring out in this paper. In this series I have not exceeded 4.5 Gm. in patients of greater weight.

Right here I would like to interpolate a criticism on the extent of our knowledge

of the fate of arsenic in the body. In the "Index Medicus" of the past three years there is no reference to the elimination of arsenic en masse. The one article dealing with excretion of arsenic in urine by Mattice and Weiseman is interested only in normal amounts on arsenic poor diet. This article discounts as almost worthless earlier experiments.

The technic I have employed in this series has been simplicity itself and consists of 8 equal injections of neoarsphenamine given at 12 hour intervals. The amount of each injection calculated from the body weight in accordance with the formula: Body weight in pounds multiplied by .03 divided by 8. To illustrate: for a man weighing 150 pounds, $150 \times .03 = 4.5$; $4.5 \div 8 = .56$; that is, 56 Gm. for each injection. Such a scheme has been followed in this case. This has been the technic with slight variations that I have used in the treatment of 25 cases in the past 20 months. This intensive treatment for a 4 day period has not been followed by the administration of any drug, anti-syphilitic or otherwise.

In 15 of my 25 cases I have been able to follow closely their serologic reactions. In this series the patients have all been of the white race. For numerous reasons I have not been able to follow closely the Negro cases. With a little study it has been possible to predict within a week the point where the positive Wassermann becomes negative. The following charts are typical of this change in reactions. When case records such as these are superimposed and Wassermann reactions compared, the time element appears to follow an almost mathematical ratio, i.e., the longer the reaction has been positive, the older the infection, the longer it takes to reverse this reaction with the same amount of treatment. Conversely it is apparently true that the shorter the time the patient has been infected the less time it takes to reverse the Wassermann reaction. The quickest reversal in this series has been 6 weeks, the longest 13 weeks. The rate of administration and the amount of arsenic given in both cases has been identical per pound of body weight. It is apparent that this ratio exists and that it may be a simple one. We know that habit exists in all of our antibody production, sometimes uselessly, i.e., nature makes doubly or trebly sure that one attack of many diseases protects for life. Practical surmise also applies to the Wassermann reaction and our simple ratio would suggest that if the reaction has been positive for years, granted treatment is adequate, it might take years to reverse itself or the natural life's span might not be long enough to encompass this transition: A possible explanation of our Wassermann-fast cases. The oldest patient I know of with positive Wassermann is 94 years old and going strong.

I have lost track of many of my most valued cases. They have gone through the course and I have not been able to contact them for the check up. Patients with early syphilis seem to be of a roaming disposition.

Whether Gypsies contract syphilis or syphilis changes an ordinary gregarious man into a nomad is not within the scope of this paper. The fact remains that these cases are hard to keep track of.

Every case that I have been able to follow with one exception has had a complete reversal of the positive Wassermann reaction within 13 weeks. They have all remained negative with two exceptions.

The first case in which the Wassermann did not become completely negative I would like to present to you. In other words his course started out according to schedule, his blood becoming 2 plus at 7 weeks. At 12 weeks he presented himself with an indolent looking sore on the penis at a different site from his first lesion. This on examination by darkfield proved to be teeming with spirochetes (6 to a field); and clinically it resembled a classical chancre. Postponing treatment for 2 weeks longer he developed an undoubted secondary eruption but less florid than the original. On studying and questioning this man and his sexual partner the fact is brought out that contact was made between the two twenty-six days before he noticed the sore on his penis. There is little doubt in my mind that this is a true case of re-infection. In other words this man was free of spirochetes twelve days after the institution of treatment, although his blood Wassermann was still 4 plus. That he got another dose of spirochetes at that instant, that I caught his original blood Wassermann on the road to negativity as far as 2 plus before his new crop of spirochetes had stepped the titre up again to the 4 plus level some 3 weeks later.

The other two cases mentioned whose Wassermann did not remain negative I have interpreted as re-infections, rather than recurrences. This was made on their histories of exposure and the clinical occurrence of typical secondary eruptions in both cases. Both are women. Both were conjugal cases. One had a demonstrable new primary lesion, the other did not. In the latter cases there is a possibility of recurrence.

In reference to intensive treatment in cases other than early syphilis, I see no reason why it should not be attempted and that it might prove of value in the treatment of prenatales and latent Wassermann-fast cases.

Time will not permit me to go into the details of suitable subjects, preparation, elimination, administration of glucose, reactions, catharsis and diet in this paper. Such an intensive course of treatment must not be undertaken lightly by physician or patient. The danger signals of intensive treatment are those of the standard treatment but they arise with greater velocity.

The advantages of a short course of treatment are apparent and will take a definite place in our armamentarium. Some of

the practical advantages of an "ambulatory quick curative course" are to the patient: privacy of treatment, uninterrupted of occupation, moderate cost and quick results. To the physician: keen interest and cooperation on the part of the patient, absence of severe reactions and the satisfaction of completing the desired amount of treatment. Few human beings have the fortitude of going through a two year course without interruption. The attitude of the patients in this series when presented with an alternative was an immediate eagerness to submit themselves to the intensive treatment. Undoubtedly the patient encountering venereal disease for the first time will embrace the possibility of a quick curative treatment. It is at this time that his anxiety and willingness to cooperate is at its maximum. With full knowledge of the possibility of severe and even fatal reaction every patient so far to whom I have proposed this treatment has elected to take this course.

The mechanism of cure is still obscure but this short course suggests a simple explanation, i.e., simple sterilization.

In conclusion I will say that the prompt reversal in every case of the positive Wassermann, with the exception noted, clearing up of clinical symptoms, increase in well being and absence of severe reactions has far exceeded my hopes in this undertaking. Whether these cases are cured or not time alone will tell. The two oldest cases of this series have been clinically we'l and serologically negative for the past 24 months at this writing.

SWELLING OF JOINT DUE TO ALLERGY

The first case in which recurrent swelling of a joint was definitely traced to allergic factors is cited by Herbert Berger, M.D., Tottenville, State Island, N. Y., in *The Journal of the American Medical Association* for June 10.

Elimination of the foods causing the allergy, he states, not only relieved the other allergic manifestations—gastrointestinal disturbances and hay fever—but also stopped the recurring collection of joint fluid responsible for the swelling and caused a general puffiness of the skin entirely to disappear.

He concludes from a review of the incidence and cause of the condition that all these symptoms do not constitute a disease but are due to a variety of general and local factors.

THE GOOD OF YESTERDAY*

R. S. LEADINGHAM, M.D.

Atlanta

Memories guard the portals of our souls. They may nurture love or lash our hearts with thongs of fear and pain. They set the tempo of our lives, the measure of our tasks. They place a song upon our lips or seal them with cares that stifle faith and hope until time removes the anguish from our minds.

When wars arise and conflicts spread to sweep a host into the fire of zealous love for home and State, we rise to honor those who gave their lives and those who gave their sons. Then with granite shaft and marble bier we enshrine their memories so that a grateful nation may not cease to honor them.

Memorials stand for what we know of human needs and sacrifice. To some come thoughts of shot and shell, the stench and damp of narrow trench, the lonely watch at break of day, the futile blessing of a dawn. To some come memories of love that quickened hope, that eased the pain, and made each agonizing cry a prayer for those who waited for the time when war would cease, and one embrace would banish every thought of fear and hate. And those today who do not know a war's demands, who have not lifted gun against a man, or have not, dry-eyed, scanned the list of those who fell, may not escape a thrill of pride for being born the scions of the men who died.

Today we honor those who made no claim to special fame, who may have served with neighbors in a war, but long before the call to arms knew the joy of sacrifice, for, giving of themselves, they shared the varied burdens of mankind.

Those who mourn their passing now may seek their resting place beneath the skies that smile upon the small and great in Georgia's soil; who served with hand and mind and heart a common State, a common cause. To those who linger at their graves may come memories of health restored, of pain relieved by means that

*Memorial address before the Ninety-First Annual Session of the Medical Association of Georgia, Savannah, April 25, 1940.

grew from patient toil of men whose calling led them past the commonplace to realms of mysteries that shroud the cause of human ills. To some may come common thoughts of neighbors, citizens, and friends, and within the breasts of a favored few are memories of a life so dear that star-lit nights and thoughtful days are now an interim. Through passing years and changing times they wait until consuming love shall break the thread of mortal life and reunite two spirits, free to live throughout eternity.

We dedicate this day to the members of our Association who lie with Georgia's dead. Our heritage proclaims the right of man to live according to his light, to sacrifice and toil for what he can attain for human good within the span of years allotted to his use. There is no solace in our thoughts of fear, no comfort in our thoughts of pain; we bow our heads and humbly ask, "God give us grace." God give us grace this day to meet its issues as we should, to build upon the heritage we have and cherish in our hearts the good of yesterday.

Listed below are the names of our deceased brothers of the past year:

Anderson, John Franklin, Hillsboro, December 3, 1939, aged 79.
 Bates, Morgan P., Ramhurst, January 30, 1940, aged 78.
 Bedingfield, Walter E., Rentz, March 17, 1940, aged 60.
 Bennett, William L., Moultrie, March 20, 1940, aged 63.
 Boland, Samuel A., Loganville, May 24, 1939, aged 67.
 Bradfield, Joseph H., Atlanta, September 6, 1939, aged 72.
 Carmichael, William W., Hampton, June 7, 1939, aged 74.
 Cheshire, Stephen Leander, Thomasville, December 2, 1939, aged 53.
 Coker, Newton Jasper, Canton, September 11, 1939, aged 71.
 Cowart, James Wilson, Walden, October 11, 1939, aged 69.
 Cox, Ross Parker, Rome, December 15, 1939, aged 75.
 Elder, Clyde Durham, Marietta, March 9, 1940, aged 64.
 Erwin, James Miller, Calhoun, October 26, 1939, aged 75.
 Fort, Arthur Godfrey, Atlanta, September 15, 1939, aged 61.
 Freeman, John F., Atlanta, February 28, 1940, aged 71.
 Fuller, James Robinson, Atlanta, March 30, 1940, aged 57.
 Greene, Benjamin Walter, Macon, February 5, 1940, aged 54.
 Harbin, Robert Maxwell, Rome, December 12, 1939, aged 76.
 Harrell, Julian Paul, Brunswick, December 27, 1939, aged 59.
 Holliday, Allen C., Athens, August 20, 1939, aged 75.

Jones, Randolph D., Reidsville, March 29, 1940, aged 63.
 Kemper, Harvey Dorman, Jonesboro, July 14, 1939, aged 60.
 Leonard, William P., Talbotton, January 19, 1940, aged 63.
 McKinney, John Charles, Athens, January 31, 1940, aged 70.
 Mitchell, Stephen R., Pineview, November 3, 1939, aged 84.
 Norman, Frank Pattillo, Columbus, March 17, 1940, aged 54.
 Page, Hugh Nelson, Augusta, March 6, 1940, aged 53.
 Pass, Isadore J., Macon, June 8, 1939, aged 31.
 Prior, Felix M., Apalachee, May 24, 1939, aged 76.
 Smith, Parish Stewart, Conyers, September 2, 1939, aged 62.
 Smith, Singleton Starr, Athens, February 18, 1940, aged 71.
 Talbot, Tully M., Valdosta, July 9, 1939, aged 80.
 Talley, Julius V., Nashville, April 19, 1939, aged 67.
 Taylor, Thomas W., West Point, November 1, 1939, aged 74.
 Ward, John Franklin, Fitzgerald, April 8, 1939, aged 52.
 Warren, William C., Atlanta, April 23, 1939, aged 69.
 Willis, Clarence H., Barnesville, August 15, 1939, aged 57.
 Wilson, Robert E., Cartersville, June 2, 1939, aged 72.
 Wood, M. N., Menlo, March 10, 1940, aged 74.

NEW RADIUM CONTROL INSTRUMENTS DESIGNED AT STANDARDS BUREAU

Two new radium control instruments in portable form which promise to be of great value to hospitals employing radium or high-voltage x-rays have been perfected at the National Bureau of Standards, according to the Department of Commerce.

The development of these instruments, the Bureau pointed out, was made possible through a circuit for integrating pulses from tube counters, recently designed by Dr. Leon F. Curtiss, chief of its Radioactivity Section.

The first of the instruments is suitable for measuring low gamma-ray intensities, down to the equivalent of 0.1 microgram of radium. The second is a dosage meter for gamma rays which indicates dosage in terms of roentgens per day and in addition gives a visual and audible alarm when this dosage reaches the maximum permissible amount of 0.1 roentgen per day. It will also give warning of excessive general exposures whenever large sources of gamma radiation are present, as from radium, high-voltage tubes, and cyclotrons.

THE PRESIDENT'S PAGE

POSTGRADUATE STUDY

The art and science of medicine today cover such a wide variety of subjects, and so much has been added in recent years, it is impossible for any one man to master all of the branches of medicine. And medicine is making such rapid strides forward in the specialties, one must study constantly to keep up with current methods in any one branch.

For centuries studies of the soul retarded the advance of medicine; then, under clinical pathology, medicine made marked advances, and now, under the experimental or research stage, it is advancing by leaps and bounds.

When a young man graduates in medicine he is not trained to practice medicine, but has only the groundwork and is in a position to learn how. We, as an Association, should request the State Board of Examiners to require each graduate to have at least one year internship in an accredited hospital before giving him a license to practice; we should go even further than that: once having been trained we should keep him trained by also requiring him to take certain postgraduate or clinical studies every few years.

Many of us over the State would like to continue our training by taking postgraduate studies, but due to inadequate finances or being tied down by a large general practice, which we think we are unable to leave, these and other considerations make it appear impossible for us to get away for several weeks of postgraduate study we should have.

Our Association should sponsor some plan of postgraduate study, and it would be infinitely better if we could carry the postgraduate training to the doctors in their home towns. In this way the expense would be much less and they would not have to leave their practice. This can be done by the circuit plan, as inaugurated by the states of Tennessee and Oklahoma.

Their plan is as follows: The State is divided into nine circuit districts and these districts subdivided into five towns or teaching centers. These circuit districts are arranged geographically so that the five towns



are easily accessible to the instructor. He spends one day of every week in each of the teaching centers for ten weeks. The course of instruction consists of lectures, with clinical conferences on the physicians' own patients; free consultations, where desired; motion pictures; and other types of demonstrations.

In this way it is possible for the doctors to stay at home, attend the weekly lectures and conferences on their own patients, and thus follow out the suggestions on their patients, in whom they would naturally be more interested and from whom they would probably learn more than if they attended clinics at great medical centers where they could not follow up the final results in the patients unknown to them.

The set-up of this plan would require: first, a field director, who would organize the circuits, solicit the doctors, and arrange the programs for the instructor; second, an instructor, who, of course, should be an outstanding man, capable of teaching, and who could command the respect of the doctors (who would be carefully chosen by the Postgraduate Committee); and third, probably a secretary. Of course, this plan costs money.

Our Postgraduate Committee is at the present time studying this plan. They propose to put this plan in operation in one circuit in our State so the doctors can see how it works. Then, we believe, the rest of the State will demand that we extend it throughout the State.

J. C. PATTERSON, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

SEPTEMBER, 1940

RHEUMATIC FEVER

The incidence of rheumatic fever in the South has been the subject of considerable discussion. Some doctors in Georgia, never seeing a case, think that it is an extreme rarity; others may exaggerate its occurrence. Certainly rheumatic fever is much less common here than in New England. However, the disease is not particularly uncommon in these parts: in the colored children's ward at Grady Hospital from December to May there are usually a half dozen cases, sometimes more. While not a public health problem in this State, its extreme importance to the individual patient warrants discussion.

In the first place, the old term "acute rheumatic fever" is an abomination. If you call it that you will, perhaps subconsciously, consider the disease an acute condition, and, by the time the temperature has dropped to normal, consider the patient fit to get up and go on about his business. Its victims are usually young and they are always impatient of confinement to bed, and the modern parent is only too apt to let her offspring follow his own desires. But if you do allow the patient up as soon as the fever subsides, the chances of prompt recurrence and of permanent damage to the heart are greatly increased. Among other names it has been called are "inflammatory rheumatism," "acute articular rheumatism," "polyarthritis rheumatica." Duckett Jones advocates "rheumatic infection." Strange to say, no proper name has ever been tacked onto this disease, which is not an unmixed blessing in view of our present incomplete knowledge of it. While deploring we cannot call it simply "rheumatism," because that term embraces such a wide variety of morbid conditions, it seems to us at this time the best term for it is "rheumatic fever."

It is not difficult to diagnose the classic case. A young person, who has suffered a

few days with sore throat or tonsillitis, or perhaps a cold, is prostrated, with a temperature of 102 to 104, rapid pulse, profuse sweating and red, swollen, tender, painful joints. The joints, often wrists or elbows, ankles or knees, may be so excruciatingly painful that the jarring caused by a person's walking across the floor may make the patient cry out. After 4 to 6 days, the first joints affected become perfectly normal, but others may light up with a fresh rise in temperature. Occasionally the chief manifestations are referred to the abdomen and acute appendicitis must be considered in the differential diagnosis. In case of doubt, the sedimentation rate is a help: rheumatic fever causes peculiarly rapid sedimentation.

It is a mistake to think of involvement of the heart as a complication of rheumatic fever. Cardiac involvement is an integral part of the disease. In the milder cases that are well taken care of, usually the heart suffers no permanent damage. At the same time about one person in three with rheumatic heart disease does not recall any history of rheumatism. Some of these may have had only mild joint pains, some may have attributed trouble in adolescence to "growing pains." Perhaps chorea will explain some, perhaps the only illness remembered is frequent sore throat. Probably in most cases the initial rheumatic infection seemed so ephemeral that little attention was paid to it, and it may be that a doctor was not even called. A story of frequent nosebleeds can be obtained in many cases.

During the acute phase of rheumatic fever there is often an actual myocarditis, which will probably not be picked up without an electrocardiogram: indeed, unless repeated tracings are taken, even the electrocardiograph may not reveal the inflammation of the heart muscle. However, the murmurs that are often heard in the early stages suggest dilatation of the heart due to disease of the muscle. Moderate enlargement is best explained on the same basis, but great enlargement of the precordial dulness is more apt to be due to pericardial effusion. Although there may be wartlike excrescences in diffusely inflamed valve

leaflets during the first bout of rheumatic fever, it is thought that these cause no murmurs. It usually takes more than two years for the scarring, thickening and contraction of the valve to progress far enough for the skilled clinician to be sure that a particular lesion is present. It may be noted that the mitral valve alone is affected in about half the cases of rheumatic heart disease. The mitral and the aortic are both involved in about half the others. Some believe that the mitral is always concerned but most authorities state that the aortic valve only is damaged in about 10 per cent. One certainly should not trace every case of aortic insufficiency to syphilis!

Once a valve has been definitely harmed, the lesion tends to progress even without manifest recurrences of the rheumatic infection: the patient's cardiac reserve is lessened and, after a varying period of disability from congestive failure, he usually dies of his heart disease. Sometimes, however, streptococcus viridans settles on the diseased valve and causes an earlier death. If the principal lesion is mitral stenosis, the patient may recover from several periods of failure. If it is aortic stenosis (judging from the five cases studied personally), while he may be symptom-free 15 or 20 years, he does not long survive the first signs of myocardial insufficiency. Persons with aortic insufficiency are notoriously subject to sudden death, though sometimes they stage repeated comebacks from congestive failure, only to die from it in the end.

There are but two decent things that can be said for rheumatic fever: the first attack rarely proves fatal and sometimes there is no permanent cardiac damage. On the other hand a young person surviving his first bout is about four times as apt to have another in the next few years as one who has never had the disease, and he must be watched for a number of years before he can be assured that he has a normal heart.

With such gloomy possibilities ahead, rheumatic fever is a disease to be taken seriously. The nice thing about treating septuagenarians is that you don't have to take much thought for their morrow, but

when your patient may reasonably look forward to 40 or 50 years of happy usefulness if you treat him properly (and both of you are lucky), your responsibilities are grave.

What then is the proper treatment of rheumatic fever?

First and foremost is absolute rest in bed for as long as may be necessary.

The salicylates or, preferably in our opinion, aspirin will do much toward pulling down the fever as well as lessening the pain; when the temperature is down on account of these drugs there may be also a deceptive slowing of the heart. It has not been proved that the salicylates have any curative value: even sulfanilamide and its related compounds so far synthesized have no effect in eradicating the infection. It is futile to continue the salicylates when the joint pains subside. You must of course supply plenty of fluids and a well balanced diet as rich in calories as possible. You must not be deceived into thinking the patient well as soon as his temperature returns to normal. You must keep him in bed for two or three weeks after his pulse slows down. By this time he should begin to regain some of the weight he has lost and to feel good. Perhaps the best criterion is to keep him in bed until the sedimentation is not more than 25.

The sedimentation test is really one of the simplest laboratory procedures there is:

It requires only a 3.8 per cent solution of sodium citrate, a Westergren tube and a rack that can be made by a good carpenter for a small amount. To 0.5 cc. of citrate is added 4.5 cc. of blood and they are well mixed. The tube is filled to the 0 mark, placed in the rack and the height of the column of clear serum is read in one hour.

Once the patient has recovered from a bout of rheumatic fever he must be kept under constant observation. It is advisable whenever he has a fever, whatever the suspected origin, to put him in bed and keep him there until you are satisfied that it is not a recurrence of rheumatic fever. An additional reason for this is the likelihood that a fever indicates the presence of a few bacteria in the blood stream and it is possible that rest will enable the body to kill

them off before they are caught on the diseased valve. There is a good chance that if a person goes four to five years without a recurrence of rheumatic fever that he will escape further infection.

Finally, if a patient who was definitely ill with rheumatic fever fifteen or more years ago has no symptoms of heart disease and the x-ray proves that his heart is normal in size and shape, encourage him to lead a fairly normal life regardless of what you hear.

L. MINOR BLACKFORD, M.D.

NONSPECIFIC GRANULOMA

(Regional Ileitis, Typhlitis, etc.)

Nonspecific granulomatous lesions of the alimentary canal have been recognized for some time, though they have been called by many names. During the past fifteen years the attention of surgeons has been centered on this lesion as a definite entity. Foreign writers are inclined to refer to it as typhloappendicitis, typhlitis or pantyphlitis, while American writers have not been able to decide on any definite name for the condition and have previously referred to it as inflammatory tumor, infective granuloma, benign granuloma, terminal ileitis, sclerosing ileitis, regional ileitis, chronic interstitial enteritis, nonspecific granuloma and many other names too numerous to mention.

While in approximately 85 per cent of the instances the lesion is located at or near the ileocecal junction it is occasionally found in the esophagus, stomach, jejunum and colon. At times there are several affected areas more or less widely distributed in the same individual. The bowel wall is infiltrated, thickened and rigid. There may or may not be adhesions depending upon the progress of the disease.

In early cases the lymphatics seem to be involved in the general inflammatory reaction, the appropriate lymph glands being swollen and enlarged and the seat of an acute adenitis. The condition may be acute or chronic, the symptoms produced depending upon the stage of the disease. In the acute type, if located near the ileocecal valve and in the majority of

instances this is true, the symptoms resemble those of acute appendicitis. In several of my patients the tenderness has been below the umbilicus extending across the abdomen toward the left. There is a moderate leukocytosis with a high percentage of lymphocytes. In my series of cases the lymphocytes have ranged from 30 to 55 per cent. In a few instances, in thin individuals, an intra-abdominal mass can be palpated. At times there is a sloughing of the inflamed and edematous mucosa with hemorrhage, followed by a secondary anemia. In a few cases there have been perforations with localized peritonitis, abscess formation and at times fistulas. The Mayo Clinic reported a number of cases of malignant degeneration of these granulomatous lesions. In late cases, following ulceration or sloughing of the mucosa, there is cicatrization with partial obstruction, then the distressing symptoms of incomplete intestinal obstruction. I had one such patient, a man in his middle forties, who had been ill for several years and unable to work. He had repeated attacks of incomplete obstruction and had had an exploratory laparotomy, and had been told he had tuberculosis of the bowels. An x-ray study showed the lesion to be in the terminal ileum and at operation we found two incomplete obstructions, approximately fifteen inches apart, due to scar tissue in the lumen. In the terminal ileum between these two areas, in the lumen of the bowel, there was one prune seed and two watermelon seed. The prune seed would get in the lower constriction producing a complete obstruction until an opiate was given hypodermically, when he would get relief. An excision of this area of the intestine and an end-to-end anastomosis relieved him completely. In recent months I have had several cases, most of them children with symptoms of acute appendicitis. At operation I found an acutely edematous appendix, the edema extending down onto the head of the cecum and with six to eight inches of the terminal ileum involved. The wall of the bowel was three times its natural thickness, and in all patients there has been marked mesenteric adenopathy.

In all of my patients the removal of the appendix seemed to relieve the condition, though I have followed the operation with advice as to the importance of a non-residue diet and mineral oil. One patient, a middle-aged Jew, had been ill for several days when I was called in consultation. His symptoms had been more or less vague and irregular, but at the time I saw him he had fever, a leukocytosis and there was general abdominal tenderness, especially over the lower abdomen, but no nausea. A diagnosis of an acute surgical abdomen was made and an exploratory laparotomy was advised. We found ten inches of the terminal ileum very thick, indurated and heavy, with the appendix and head of the cecum involved, apparently secondarily. The patient's condition was bad and he was a poor risk. Feeling that he could not tolerate excision of the terminal ileum and part of the ascending colon, a simple ileostomy was performed well above the affected area. After a stormy period of several days the patient developed a decompensating heart condition with pulmonary edema and died. An autopsy was refused.

The laboratory tests in these cases have been disappointing. In the past many of them have been called tuberculous. Instances of nonspecific granuloma have been described in other portions of the alimentary canal, such as the stomach and colon. In 1927 Wilensky and Moschcowitz reported several cases in detail. These reports centered the attention of surgeons on this peculiar lesion and since that time many other operators have reported similar findings. There are several instances in the literature in which the removal of the appendix apparently did not relieve the condition entirely and further complications developed later, such as perforation of the cecum or the ileum, with abscess formation, adhesions and fistula formation. The condition does not appear to be epidemic or contagious and while apparently most prevalent in the third or fourth decade of life, it has been seen in all ages.

There have been several attempts to connect this condition with the dysentery group,

but the Mayo Clinic stated that there is no relation between the nonspecific granuloma and dysentery. Insofar as that clinic has been able to demonstrate, the granulomas are apparently sterile. In a few instances the Wassermann reaction has been positive, but this evidently was coincidental and had nothing to do with the cause of the granuloma. The Frei test in these cases has been negative.

The question arises, does the inflammation begin in the appendix and extend to the adjacent cecum and ileum and, if so, does the removal of the appendix in the acute type relieve the situation? There have been a few cases reported in whom the cecum and the ileum were involved and the appendix was found to be normal, and in other instances the appendix alone seemed to be involved.

From my limited experience and a thorough study of the available literature it would appear definitely that a nonspecific granuloma may begin in the appendix and may progress to gangrene formation. In my opinion the appendix is involved in the majority of instances.

Undoubtedly this condition is frequently overlooked and especially by those surgeons who make a practice of using a McBurney incision through which a thorough exploration is impossible. I, personally, have known of several instances where an operation was performed for appendicitis and a mildly inflamed appendix was removed, but the patient continued to go from bad to worse and would finally die. When an autopsy is refused by the relatives of these patients the true condition can never be known. I think that the surgeon should be on the outlook for this condition and we should decide upon some definite name to be applied to it.

T. C. DAVISON, M.D.

The Annual Conference of Secretaries of State Medical Associations will not be held this year on account of the case of the U. S. Government versus the American Medical Association et al. The Conferences have been sponsored for many years by the A. M. A.

The Southern Medical Association will hold its next annual meeting in Louisville, Ky., November 12-15, 1940.

U. S. EXPORTS OF SCIENTIFIC AND LABORATORY INSTRUMENTS AND APPARATUS CONTINUE TO GAIN

The strong foreign demand for American scientific and laboratory instruments and apparatus is reflected in current export sales, according to the Specialties Division of the Department of Commerce.

During the first six months of the present year, foreign sales were valued at \$3,193,424, a 68.8 per cent increase over the corresponding period of 1939 and 47.9 per cent compared with the six months of 1938.

These items of American manufacture continue to be widely distributed to world markets, although there are a few markets which purchase a substantial portion of total exports. The 24 most important foreign outlets located in all continents, took approximately 91 per cent of the total exports during the first six months of 1940. The same areas during 1939 and 1938 accounted for 81.5 per cent and 86.5 per cent, respectively, of the total exports.

Canada continues to be the largest export outlet for United States' scientific and laboratory instruments and apparatus, purchasing 18.5 per cent of the total exports for the first six months of 1940. This is a gain of 22 per cent and 44 per cent, respectively, over the corresponding periods of 1938 and 1939. Sales to Japan and the Netherlands Indies during the first six months of 1939 were valued at \$42,037 and \$28,009, but during the same months of 1940 increased to \$528,417 and \$176,488, respectively.

Shipments to Venezuela and Brazil during the period under discussion were valued at \$154,151 and \$147,493 compared with \$81,191 and \$76,232 for the same period of 1939. Purchases by the United Kingdom were valued at \$141,378, a slight increase over 1939, but exports to Sweden for the first six months of 1940 gained \$39,140 over the 1939 trade of \$86,011.

Other important markets which recorded gains were Argentina, Colombia, Mexico, Soviet Russia, France, and British India. There were no shipments made to Germany and Poland during 1940, while exports to Italy amounted to \$17,377.

CONTAMINATED FOOD

"Foods were a more prolific source of disease outbreaks in 1938 than were milk or water supplies," according to a report on "Disease Outbreaks Resulting from Faulty Environmental Sanitation" by Senior Sanitary Engineer Leslie C. Frank of the United States Public Health Service.

The food-borne disease most frequently involved during 1938 was gastroenteritis with 23 reported outbreaks and 1,015 cases. The diseases next most frequently involved were "food poisoning" and typhoid fever, with 19 outbreaks, 817 cases, and 3 deaths, and 16 outbreaks, 251 cases, and 16 deaths, respectively.

The greatest number of water-borne outbreaks and deaths occurred in connection with untreated ground water supplies. This means that one of the important problems still remaining in connection with the prevention of waterborne outbreaks is a more intensive sanitary control of ground water supplies. Many ground water supplies are faulty either in design or operation.

Our control of surface water supplies is inadequate. During 1938 there were reported a total of 8 outbreaks in connection with surface water supplies, 4 of which were treated water supplies.

Defective water supplies caused more outbreaks of gastroenteritis than of either typhoid fever or dysentery. It was found that unsafe water supplies caused as many typhoid fever outbreaks as did unsafe milk supplies.

Sweet milk supplies were responsible for 38 of the 42 milk-borne outbreaks. 1 was traced to buttermilk, 2 to ice cream and 1 to cheese. In only 1 of the 38 outbreaks traced to sweet milk was any attempt made to pasteurize the milk. In this case the pasteurizer was reported to have "broken down."

Only a small percentage of water and milk-borne outbreaks occurred in communities of over 10,000 population. Thirty-eight of the 70 food-borne outbreaks (54 per cent) occurred in communities of 10,000 and over, which embraced 47.2 per cent of the total population. Large communities are more advanced than small communities with respect to water and milk sanitation.

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OUR OBJECTIVES

1940 — 1941

THEME

Know—Serve—Grow

The objectives of the Woman's Auxiliary to the Medical Association of Georgia for the year 1940-1941:

FOR MEMBERS:

1. To know the aims and purposes of a Medical Auxiliary, and its methods of organization. To be informed about the work; know the names of local County Advisers and Chairman of the State Advisory committee; the names of the County and State Auxiliary Officers and Chairmen.
2. Endeavor to attend Auxiliary meetings regularly; to pay dues promptly. Invite other eligible women to become members; also work to retain present eligible membership.
3. Accept chairmanship of health and public welfare in other organizations, or any office which will mean growth in Auxiliary work.
4. Present the Health Education Program outlined for us by the Medical Association of Georgia to all lay organizations, the Medical Societies appointing speakers; the Auxiliaries supplying approved educational materials. Inform and direct laymen about approved radio health programs. Special emphasis on Nutrition in our health education work.
5. Be informed on current legislative matters sponsored, or endorsed by the Medical Association of Georgia and acquaint others with them. Urge members to be registered voters. Know the American Medical Association Platform on National Health Program.
6. Read the Auxiliary pages of the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA; the Atlanta Constitution the first Sunday of every month and send articles for both to the State Press and Publicity Chairman. Send Auxiliary news items to County, District and State Scrapbook Chairman.
7. An active campaign to increase subscription to Hygeia, the only health magazine published by the American Medical Association. Enter the National Auxiliary Hygeia Contest. Increase the subscriptions to the National Auxiliary Bulletin.

8. Assist in the entertainment of County, District and State Meetings, and promote unity and friendliness at all times.

FOR PRESIDENTS:

1. Each County President and District Manager upon taking office should secure an Advisory Committee, or Councilor, from her local Medical Society, and be guided in all activities by them.
2. County Presidents and District Managers on taking office should appoint chairmen corresponding to State, Southern, and National if feasible, and send a list to the State President.
 1. Organization
 2. Health Education
 3. Public Relations
 4. Press and Publicity
 5. Legislation
 6. Hygeia
 7. Scrapbook
 8. Health Films
 9. Doctors' Day
 10. Research in Romance of Medicine
 11. Historian
 12. Student Loan Fund
 13. Jane Todd Crawford Memorial
 14. Archives
 15. Exhibits
3. Arrange a health education program for each meeting of your Auxiliary. Secure speakers through your Advisers; have a Public Relations program for all lay organizations in your county, presenting to them a health program arranged in co-operation with your Advisers.
4. Observe "Doctors' Day" March 30th. On this day honor the physicians who have dedicated their services to humanity and commemorate achievements of all physicians who live in Georgia. Urge annual physical check up for them.
5. Contribute to Student Loan and Health Film Library.
6. Send a special message on "Mother's Day," through the press, talks and posters to all mothers urging a periodical medical examination for her and her family, with a correction of all remediable defects.
7. State Chairmen will send their recommendations to you. Please give them to your Chair-

men and assist them with their work.

This year we will work to prove and establish a need for teacher training in health education as a requisite for teacher certification in Georgia. Auxiliary service to the Medical Association of Georgia can best be assured by active participation of a well informed member. Know—Serve—Grow.

MRS. H. G. BANISTER, *President.*

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Massey, Mrs. W. F., Chester
Parkerson, Mrs. I. J., Railroad Ave., Eastman
Smith, Mrs. E. L., Eastman
Tolleson, Mrs. H. M., Eastman
Wall, Mrs. J. Cox, Eastman

Dooley County

President—Mrs. E. B. Davis, Byromville

Members

Davis, Mrs. E. B., Byromville
Kitchens, Mrs. O. W., Byromville
Lee, Mrs. J. L., Pinehurst

Houston-Peach Counties

President—Mrs. R. L. Cater, Perry

Members

Cater, Mrs. R. L., Perry
Evans, Mrs. H. E., Perry
Gallemore, Mrs. J. L., Perry
Story, Mrs. J. W., Perry

Macon County

President—Mrs. C. P. Savage, Montezuma

Members

Cheves, Mrs. Langdon, Montezuma
Derrick, Mrs. H. C., Oglethorpe
Greer, Mrs. Chas. A., Oglethorpe
Harp, Mrs. S. L., Marshallville
Liggin, Mrs. Sam, Montezuma
Savage, Mrs. C. P., Montezuma

Muscogee County

President—Mrs. W. C. Cook, Columbus

Members

Berry, Mrs. Arthur N., 1617 Wynnton Dr., Columbus
Blackmar, Mrs. Francis B., 1243 Forrest Ave., Columbus
Blanchard, Mrs. Mercer, 1543 Eberhart Ave., Columbus
Brannen, Mrs. O. C., 1318 Stark Ave., Columbus
Bratley, Mrs. Forrest G., 1504 15th Ave., Columbus

Cook, Mrs. William C., 926 Benning Blvd., Columbus
Cooke, Mrs. W. L., 2110 Oak Ave., Columbus
Dilliard, Mrs. Guy J., 1919 Flournoy Dr., Columbus
Gaston, Mrs. Joseph H., 1409 4th Ave., Columbus
Jenkins, Mrs. W. F., Dixon Dr., Columbus
Johnson, Mrs. J. H., 2320 17th Ave., Columbus
Jones, Mrs. W. R., 2408 18th Ave., Columbus
Murray, Mrs. G. S., Dinglewood, Columbus
McDuffie, Mrs. J. H., 1304 E. 10th St., Columbus
Norman, Mrs. Frank P., Wildwood Court Apt., Columbus
Peacock, Mrs. Glifford A., 1266 Cedar Ave., Columbus
Schley, Mrs. Frank B., 1352 Peacock Ave., Columbus
Spikes, Mrs. J. L., 1262 Peacock Ave., Columbus
Thompson, Mrs. John B., 1400 Peacock Ave., Columbus
Thrash, Mrs. J. A., Columbus
Threatte, Mrs. Bruce, 1505 Eberhart Ave., Columbus
Tillery, Mrs. Bert, 1544 Cherokee Ave., Columbus
Walker, Mrs. John E., Green Island Hills, Columbus
Willis, Mrs. J. N., 1240 Cedar Ave., Columbus
Winn, Mrs. John H., 3 Park Drive, Columbus
Youmans, Mrs. J. R., Dimon Court Apts., Columbus

Randolph County

President—Mrs. Loren Gary, Jr., Shellman

Members

Crook, Mrs. W. W., Cuthbert
Elliott, Mrs. W. G., Cuthbert
Gary, Mrs. Loren, Sr., Georgetown
Gary, Mrs. Loren, Jr., Shellman
Harper, Mrs. T. F., Coleman
Ingram, Mrs. H. R., Coleman
Martin, Mrs. F. M., Shellman
Massengale, Mrs. L. R., Cuthbert
McCurdy, Mrs. E. C., Shellman
Patterson, Mrs. J. C., Cuthbert
Rogers, Mrs. Floyd, Coleman

Terrell County

President—Mrs. J. C. Tidmore, Dawson

Members

Arnold, Mrs. John, Parrott
Chappell, Mrs. Guy, Dawson
Jenkins, Mrs. Oliver, Dawson
Lamar, Mrs. Lucius, Dawson
Tidmore, Mrs. J. C., Dawson

FOURTH DISTRICT

Manager—Mrs. Kenneth D. Grace, LaGrange

Lamar County

President—Mrs. J. A. Corry, Barnesville

Members

Corry, Mrs. J. A., Barnesville
Jackson, Mrs. J. H., Barnesville
Traylor, Mrs. S. B., Barnesville
Willis, Mrs. C. H., Barnesville

Spalding County

President—Mrs. T. J. Floyd, Griffin

Members

Copeland, Mrs. H. G., Griffin
Copeland, Mrs. H. W., Griffin
Floyd, Mrs. T. J., Griffin
Forrer, Mrs. D. A., Griffin
Frye, Mrs. A. H., Griffin
Griffith, Mrs. C. F., Griffin
Hawkins, Mrs. T. L., Griffin
Hunt, Mrs. K. S., Griffin
Leslie, Mrs. J. T., Griffin
Miles, Mrs. W. C., Griffin
Vinson, Mrs. T. O., Griffin
Walker, Mrs. G. L., Griffin

Troup County

President—Mrs. Kenneth D. Grace, LaGrange

Members

Arnold, Mrs. E. T., Hogansville
Avery, Mrs. R. M., LaGrange
Callaway, Mrs. Enoch, 306 Broad St., LaGrange
Clark, Mrs. W. H., Vernon Rd., LaGrange

Grace, Mrs. Kenneth D., Broad St. Apts., LaGrange
 Hadaway, Mrs. W. H., Vernon Rd., LaGrange
 Hammett, Mrs. H. H., Gordan St., LaGrange
 Harvey, Mrs. C. W., Hogansville
 Herman, Mrs. E. C., Gordan St., LaGrange
 Holder, Mrs. J. S., Winsor Ave., LaGrange
 Lane, Mrs. Joe, LaGrange
 Lee, Mrs. R. O., Ridley Ave., LaGrange
 McCall, Mrs. W. R., Hill St., LaGrange
 Morgan, Mrs. D. E., Broad St., LaGrange
 McCrummen, Mrs. L. R., LaGrange
 O'Neal, Mrs. R. S., Gordan St., LaGrange
 Park, Mrs. E. R., Gordan St., LaGrange
 Phillips, Mrs. W. F., Broad St., LaGrange
 Rutland, Mrs. S. C., Ridley Ave., LaGrange
 Slack, Mrs. H. R., LaGrange
 Walker, Mrs. H. P., LaGrange

Douglas County

Member-At-Large

Harper, Mrs. Sage, Wray, Ga.

FIFTH DISTRICT

Manager—Mrs. George Williams, Atlanta

Fulton County

President—Mrs. Olin S. Cofer, Atlanta

Members

Allen, Mrs. Eustace A., 18 Collier Rd., N. W., Atlanta
 Anderson, Mrs. Wm. W., 63 Avery Dr., N. E., Atlanta
 Arthur, Mrs. J. Frank, 1181 Briarcliff Place, N. E., Atlanta
 Askew, Mrs. H. H., 1329 Springdale Rd., N. E., Atlanta
 Aven, Mrs. C. C., 2310 Gordon Rd., S. W., Atlanta
 Baggett, Mrs. Leland G., 79 Brighton Rd., N. W., Atlanta
 Banker, Mrs. E. A., 32 Stovall Blvd., N. E., Atlanta
 Barfield, Mrs. Forrest M., 3106 Andrews Drive, N. W., Atlanta
 Barnett, Mrs. Crawford W., 900 Myrtle St., N. E., Atlanta
 Bateman, Mrs. Needham, 114 17th St., N. E., Atlanta
 Beasley, Mrs. B. T., 884 Virginia Ave., N. E., Atlanta
 Benson, Mrs. H. Bagley, 1040 Springdale Rd., N. E., Atlanta
 Benson, Mrs. Marion T., 1040 Springdale Rd., N. E., Atlanta
 Blackman, Mrs. Wilbur, 248 Andrews Dr., N. E., Atlanta
 Blalock, Mrs. John C., 124 W. Wesley Rd., Atlanta
 Bleich, Mrs. Jack, 1050 Ponce de Leon Ave., N. E., Atlanta
 Boland, Mrs. Chas. G., 120 Lindbergh Drive, N. E., Atlanta
 Boland, Mrs. Frank K., 252 Peachtree Circle, N. E., Atlanta
 Boynton, Mrs. Chas. E., 119 Brighton Rd., N. W., Atlanta
 Boynton, Mrs. Chas. E., Jr., 801 Monterey Dr., N. W., Atlanta
 Boyd, Mrs. Hartwell, 263 The Prado, N. E., Atlanta
 Brawner, Mrs. A. F., Smyrna, Ga.
 Brawner, Mrs. Jas. N., Sr., 2800 Peachtree Rd., N. E., Atlanta
 Brawner, Mrs. Jas. N., Jr., 2800 Peachtree Road, Atlanta
 Brawner, Mrs. Leon, 129 W. Wesley Rd., Atlanta
 Brown, Mrs. S. Ross, 1071 Oxford Rd., N. E., Atlanta
 Brown, Mrs. Stephen T., 1088 Oxford Rd., N. E., Atlanta
 Burke, Mrs. B. Russell, 1096 Ponce de Leon Ave., N. E., Atlanta
 Byrd, Mrs. T. Luther, 1752 N. Pelham Rd., N. E., Atlanta
 Calhoun, Mrs. F. P., 2906 Andrews Dr., N. W., Atlanta
 Cathcart, Mrs. Don F., 1792 Flagler Ave., N. W., Atlanta
 Champion, Mrs. W. L., 1323 Ponce de Leon Ave., N. E., Atlanta
 Childs, Mrs. J. R., 1955 Ponce de Leon Ave., N. E., Atlanta
 Clark, Mrs. James J., 1081 Springdale Rd., N. E., Atlanta
 Clay, Mrs. Grady E., 218 16th St., Atlanta
 Cofer, Mrs. Olin S., 948 Lullwater Rd., N. E., Atlanta
 Coleman, Mrs. R. C., Jr., 2528 Alston Dr., S. E., Atlanta
 Collier, Mrs. T. J., 1781 Peachtree Rd., N. W., Atlanta
 Crawford, Mrs. J. H., 2512 Brookwood Dr., N. E., Atlanta

Atlanta

Crowe, Mrs. W. R., 1069 Virginia Ave., N. E., Atlanta
 Curtis, Mrs. W. L., College Park
 Daly, Mrs. Leo P., 360 Ponce de Leon Ave., N. E., Atlanta
 Daniel, Mrs. Chas. H., College Park
 Daniel, Mrs. Eugene, 230 Howard St., N. E., Atlanta
 Daniel, Mrs. W. W., 1705 Pelham Rd., Atlanta
 Davis, Mrs. Shelly C., 283 E. Wesley Rd., Atlanta
 Davison, Mrs. T. C., 1414 Lanier Pl., N. E., Atlanta
 Davenport, Mrs. T. M., 235 E. Ponce de Leon Ave., N. E., Atlanta
 Dew, Mrs. J. Harris, 2554 Peachtree Rd., Atlanta
 Dorough, Mrs. W. S., 344 Ponce de Leon Ave., Atlanta
 Dougherty, Mrs. M. S., 76 Brighton Rd., N. E., Atlanta
 Dunn, Mrs. W. M., 2801 Andrews Dr., N. W., Atlanta
 Edgerton, Mrs. M. T., 788 Penn Ave., N. E., Atlanta
 Elkin, Mrs. Paul, 1743 Johnson Rd., N. E., Atlanta
 Equen, Mrs. Murdock, 2505 Habersham Rd., N. W., Atlanta
 Ferguson, Mrs. I. A., 353 Argonne Dr., N. E., Atlanta
 Fincher, Mrs. Edgar F., Jr., 2639 Parkside Dr., N. E., Atlanta
 Floyd, Mrs. J. T., 791 Greenwood, N. E., Atlanta
 Foster, Mrs. Kimsey E., College Park
 Fowler, Mrs. C. Dixon, 669 Cumberland Rd., N. E., Atlanta
 Fuller, Mrs. Geo. W., 1384 Fairview Rd., N. E., Atlanta
 Gay, Mrs. J. Gaston, Howell Mill Rd., Rt. 7, Atlanta
 Gay, Mrs. T. Bolling, 76 Montgomery Ferry Dr., N. E., Atlanta
 Goodwyn, Mrs. T. P., 2480 Woodward Way, Atlanta
 Greene, Mrs. Edgar H., 156 Huntington Rd., N. E., Atlanta
 Hackney, Mrs. James, 243 Haas Ave., S. E., Atlanta
 Hailey, Mrs. Howard, 67 Brighton Rd., N. W., Atlanta
 Hamm, Mrs. W. G., 31 Golf Circle, N. E., Atlanta
 Hanner, Mrs. Jas. P., 39 Inman Circle, N. E., Atlanta
 Hobby, Mrs. A. Worth, 1740 Meadowdale Ave., N. E., Atlanta
 Holden, Mrs. F. C., 1256 N. Morningside Dr., N. E., Atlanta
 Holmes, Mrs. Walter R., 85 Peachtree Circle, N. E., Atlanta
 Howell, Mrs. Guy A., 1278 Mosely Dr., S. W., Atlanta
 Howell, Mrs. Stacy C., 2641 Acorn Ave., N. E., Atlanta
 Hunter, Mrs. Conway, 971 N. Highland Ave., N. E., Atlanta
 Jennings, Mrs. Jas. L., 683 Elkmont Dr., N. E., Atlanta
 Jernigan, Mrs. H. Walker, 826 Peachtree St., N. E., Atlanta
 Kirkland, Mrs. Spencer A., 106 Peachtree Battle Ave., N. W., Atlanta
 Kiser, Mrs. W. H., Jr., 210 Ponce de Leon Ave., N. E., Atlanta
 Klugh, Mrs. Geo. F., Jr., 591 Clifton Rd., N. E., Atlanta
 Lange, Mrs. Harry, 1128 Oakdale Rd., N. E., Atlanta
 Landham, Mrs. J. W., 4199 Club Dr., N. W., Atlanta
 Linch, Mrs. A. O., 943 Rosedale Rd., N. E., Atlanta
 Lower, Mrs. Emory G., 742 Boulevard, N. E., Atlanta
 Lowance, Mrs. Mason, 877 W. Wesley Rd., Atlanta
 Lunsford, Mrs. Guy G., 948 Williams Mill Rd., N. E., Atlanta
 Martin, Mrs. Jas. J., 198 Ponce de Leon Ave., N. E., Atlanta
 Mashburn, Mrs. Chas. M., LaVista Rd., Atlanta
 Matthews, Mrs. O. H., 61 Barksdale Dr., N. E., Atlanta
 McCay, Mrs. C. G., 136 Clairmont Ave., Atlanta
 McDaniel, Mrs. J. G., 743 Piedmont Ave., N. E., Atlanta
 Mestre, Mrs. Ricardo, 581 Martina Dr., N. E., Atlanta
 Merrill, Mrs. A. J., 55 LaFayette Dr., N. E., Atlanta
 Mims, Mrs. F. C., 1638 N. Decatur Rd., N. E., Atlanta
 Minor, Mrs. Henry W., Peachtree Dunwoody Rd., Atlanta
 Monfort, Mrs. Merrell, 3870 Club Dr., N. E., Atlanta
 Mosteller, Mrs. Ralph, 684 Durant Place, N. E., Atlanta
 Myers, Mrs. Martin T., 418 Sixth St., N. E., Atlanta
 Nabors, Mrs. Dewey, 2380 Dellwood Dr., N. W., Atlanta
 Nardin, Mrs. Gene, 1323 Ponce de Leon Ave., Atlanta
 Nall, Mrs. J. D., 1029 Rosedale Rd., N. E., Atlanta

Nesbitt, Mrs. Francis C., 74 Twenty-eighth St., N. W., Atlanta
 Newberry, Mrs. R. E., 2160 Ponce de Leon Ave., N. E., Atlanta
 Niles, Mrs. Geo. M., 3453 Lennox Rd., N. E., Atlanta
 Nippert, Mrs. Philip H., 2554 Peachtree Rd., Atlanta
 Noble, Mrs. Geo. H., Jr., 91 Park Circle, N. E., Atlanta
 Norris, Mrs. Jack C., 511 Peachtree Battle Ave., Atlanta
 Olds, Mrs. Bomar A., 95 W. Wesley Rd., Atlanta
 Parks, Mrs. Harry, 847 Briarcliff Rd., N. E., Atlanta
 Paullin, Mrs. J. Edgar, 283 Andrews Dr., N. W., Atlanta
 Perry, Mrs. Sam W., Briarcliff Hotel, Atlanta
 Phillips, Mrs. Hayward, 1738 Homestead Ave., N. E., Atlanta
 Pittman, Mrs. J. L., Howell Mill Rd., Atlanta
 Powell, Mrs. Vernon, 10 Vernon Rd., N. W., Atlanta
 Pruitt, Mrs. M. C., Henry Grady Hotel, Atlanta
 Quillian, Mrs. Earle, 968 Ponce de Leon Ave., N. E., Atlanta
 Reed, Mrs. Clinton, Henry Grady Hotel, Atlanta
 Rieser, Mrs. Charles, 1217 W. Wesley Rd., N. W., Atlanta
 Richardson, Mrs. Jeff L., 969 Clifton Rd., N. E., Atlanta
 Roberts, Mrs. C. W., 1085 St. Charles Place, N. E., Atlanta
 Roberts, Mrs. H. Hines, 1263 Piedmont Ave., N. E., Atlanta
 Rogers, Mrs. J. Harry, 134 Huntington Rd., N. W., Atlanta
 Rushin, Mrs. Chas. E., 50 Camden Rd., N. W.
 Sage, Mrs. Dan Y., 47 Inman Circle, N. E., Atlanta
 Sauls, Mrs. H. Cliff, Howell Mill Rd., N. W., Atlanta
 Schilling, Mrs. E. N., Vet. Admin. Facility, Peachtree Rd., Atlanta
 Selman, Mrs. W. A., 760 Penn Ave., N. E., Atlanta
 Shackelford, Mrs. B. L., 2665 Arden Rd., N. W., Atlanta
 Shanks, Mrs. E. D., 1431 Fairview Rd., N. E., Atlanta
 Smith, Mrs. Linton, 365 Mayson Ave., N. E., Atlanta
 Smith, Mrs. Carter, 104 W. Wesley Rd., Atlanta
 Smith, Mrs. W. A., 2956 Lennox Rd., Atlanta
 Smith, Mrs. Lewis M., W. Wesley Rd., N. W., Atlanta
 Smith, Mrs. Simon H., 1291 Emory Rd., N. E., Atlanta
 Stewart, Mrs. Calvin B., 904 Peachtree St., N. E., Atlanta
 Swanson, Mrs. Cosby, 10 Cherokee Rd., Atlanta
 Tidmore, Mrs. T. L., 858 Adair Ave., N. E., Atlanta
 Thomason, Mrs. C. Grigg, 603 Jefferson Ave., East Point
 Thomason, Mrs. W. L., 638 Amsterdam Ave., N. E., Atlanta
 Turk, Mrs. L. N., 1516 N. Morningside Dr., Atlanta
 Turner, Mrs. John W., 157 Seventeenth St., N. E., Atlanta
 Upshaw, Mrs. C. B., 108 W. Wesley Rd., Atlanta
 Van Dyke, Mrs. A. H., 2440 Peachtree Rd., N. W., Atlanta
 Walker, Mrs. Exum B., 2080 N. Decatur Rd., Atlanta
 Warnock, Mrs. C. M., 795 Frederica St., N. E., Atlanta
 Warren, Mrs. Wm. C., 980 Briarcliff Rd., N. E., Atlanta
 Waters, Mrs. W. C., Jr., 878 Virginia Ave., N. E., Atlanta
 Weitz, Mrs. Frank, 1122 Zimmer Dr., N. E., Atlanta
 West, Mrs. C. M., 1659 Pelham Rd., N. E., Atlanta
 White, Mrs. Jno. Bomar, 769 Penn Ave., N. E., Atlanta
 Williams, Mrs. Geo. A., 135 Montgomery Ferry Dr., Atlanta
 Willingham, Mrs. T. Irvin, 2788 Peachtree Rd., Atlanta
 Yampolsky, Mrs. Jos., 746 Brookridge Dr., N. E., Atlanta

DeKalb County

Members-at-Large

Ansley, Mrs. H. G., Decatur
 Duncan, Mrs. G. A., Decatur

Rockdale County

Member-at-Large

Griggs, Mrs. Harvey, Conyers

SIXTH DISTRICT

Manager—Mrs. Y. H. Yarborough, Milledgeville

Baldwin County

President—Mrs. C. H. Richardson, Milledgeville

Members

Allen, Mrs. Dawson, Allen's Invalid Home, Milledgeville
 Allen, Mrs. Edwin, Allen's Invalid Home, Milledgeville
 Allen, Mrs. H. D., Sr., Allen's Invalid Home, Milledgeville
 Anderson, Mrs. Sam A., State Hospital, Milledgeville
 Binion, Mrs. Richard, 310 W. Green St., Milledgeville
 Bostick, Mrs. W. A., State Hospital, Milledgeville
 Bradford, Mrs. R. W., State Hospital, Milledgeville
 Cary, Mrs. H. R., North Jefferson St., Milledgeville
 Clodfelter, Mrs. T. C., State Hospital, Milledgeville
 Cornwell, Mrs. G. K., State Hospital, Milledgeville
 Cox, Mrs. C. G., State Hospital, Milledgeville
 Echols, Mrs. George, State Hospital, Milledgeville
 Evans, Mrs. R. E. N., Clark St., Milledgeville
 Fulghum, Mrs. Charles B., N. Jefferson St., Milledgeville
 Garrard, Mrs. J. L., State Hospital, Milledgeville
 Little, Mrs. Y. A., Carolyn Apts., Milledgeville
 Litton, Mrs. J. H., Carolyn Apts., Milledgeville
 Longino, Mrs. L. P., State Hospital, Milledgeville
 Mays, Mrs. J. R. S., State Hospital, Milledgeville
 Oden, Mrs. J. W., State Hospital, Milledgeville
 Richardson, Mrs. C. H., N. Columbia St., Milledgeville
 Walker, Mrs. N. P., W. Green St., Milledgeville
 Woods, Mrs. O. C., N. Jefferson St., Milledgeville
 Yarbrough, Mrs. Y. H., State Hospital, Milledgeville.

Bibb County

President—Mrs. J. P. Holmes, Macon

Members

Anderson, Mrs. James C., 106 Stanislaus Circle, Macon
 Anderson, Mrs. Carl L., 280 College St., Macon
 Applewhite, Mrs. Joe D., 108 Avon Rd., Macon
 Atkinson, Mrs. Harold C., 206 Corbin Ave., Macon
 Bashinski, Mrs. Benjamin, 120 Buford Place, Macon
 Baxley, Mrs. W. W., 109 Alabama Ave., Macon
 Bazemore, Mrs. Wallace L., 127 Beverly Place, Macon
 Boswell, Mrs. W. Charles, 106 Buford Place, Macon
 Chrisman, Mrs. W. W., 112 Corbin Ave., Macon
 Clay, Mrs. J. Emory, 116 Hines Terrace, Macon
 Corn, Mrs. Ernest, 555 College St., Macon
 Fountain, Mrs. James A., Shirley Hills, Macon
 Golsan, Mrs. Williard R., 8-A. Massee Apts., Macon
 Harber, Mrs. C. Dillard, Nottingham Dr., Macon
 Harrold, Mrs. Charles C., 550 Orange St., Macon
 Harrold, Mrs. Thomas, Jr., 567 College St., Macon
 Holmes, Mrs. J. P., 252 Overlook Ave., Macon
 Keen, Mrs. O. F., 506 Napier Ave., Macon
 Kemp, Mrs. Paul S., 623 Vineville Ave., Macon
 King, Mrs. J. Lon, 223 Buford Place, Macon
 Mass, Mrs. Max, 107 Pierce Ave., Macon
 Mobley, Mrs. Walter E., Massee Apts., Macon
 McAllister, Mrs. E. W., 97 Ingleside Ave., Macon
 Newman, Mrs. W. A., 571 Orange St., Macon
 Newton, Mrs. Ralph G., 217 Buford Place, Macon
 Porch, Mrs. Leon D., 240 Riverside Dr., Macon
 Richardson, Mrs. Charles H., 359 Cherokee Ave., Macon
 Richardson, Mrs. Rhea, 2516 Forsyth Rd., Macon
 Rogers, Mrs. T. E., 120 Clisby Place, Macon
 Ross, Mrs. Thomas L., 359 Orange St., Macon
 Rozar, Mrs. Allen Robert, Shirley Hills, Macon
 Thompson, Mrs. O. R., 206 Belvadier Dr., Macon
 Ware, Mrs. Ford, 705 Ridge Ave., Macon
 Wasden, Mrs. Charles N., 116 Buford Place, Macon
 Weaver, Mrs. Hudnall G., 120 Gallaway St., Macon
 Williams, Mrs. W. A., 240 Stanislaus Circle, Macon
 Woods, Mrs. C. J., Vista Circle, Macon
 Wood, Mrs. James A., 214 Vineville Ave., Macon

Washington County

President—Mrs. J. B. Dillard, Davisboro

Members

Cason, Mrs. W. M., Sandersville
 Dilliard, Mrs. J. B., Davisboro
 Harris, Mrs. Eugene, Sandersville
 Helton, Mrs. B. L., Sandersville
 Lennard, Mrs. O. D., Tennille
 Lozier, Mrs. N. H., Sandersville
 Newsome, Mrs. Emory G., Sandersville

Newsome, Mrs. N. J., Sandersville
 Overby, Mrs. N., Sandersville
 Peacock, Mrs. E. S., Harrison
 Rawlings, Mrs. F. B., Sandersville
 Rogers, Mrs. O. L., Sandersville
 Taylor, Mrs. R. L., Davisboro
 Troutman, Mrs. W. C., Tennille

Jefferson County
 Member-at-Large

Revell, Mrs. S. T. R., Louisville

SEVENTH DISTRICT
 (Unorganized)

Gordon County
 Member-at-Large

Hall, Mrs. W. D., Calhoun

Polk County

President—Mrs. J. E. Griffith, Rockmart
 Members

Chaudron, Mrs. P. O., Cedartown
 Goldin, Mrs. R. B., Rockmart
 Griffith, Mrs. J. E., Rockmart
 McBryde, Mrs. T. E., Rockmart
 McGehee, Mrs. John M., Cedartown
 Lucas, Mrs. W. H., Cedartown
 White, Mrs. G. M., Cedartown
 Whitely, Mrs. Seals L., Cedartown

Whitfield County
 Member-at-Large

Wood, Mrs. Lloyd, Dalton

EIGHTH DISTRICT

Manager—Mrs. Louis Smith, Lakeland

Glynn County

President—Mrs. J. W. Simmons, Brunswick
 Members

Avera, Mrs. J. B., Brunswick
 Burford, Mrs. R. S., Brunswick
 Conn, Mrs. Webb, Brunswick
 Cheney, Mrs. G. W. H., Brunswick
 Greer, Mrs. C. B., Brunswick
 Harrell, Mrs. J. P., Brunswick
 Mitchell, Mrs. L. C., Brunswick
 Willis, Mrs. T. V., Brunswick

Ware County

President—Mrs. Lovick W. Pierce, Waycross
 Members

Atwood, Mrs. Geo., 1110 Elizabeth St., Waycross
 Bradley, Mrs. D. M., 629 Nichols St., Waycross
 Bussell, Mrs. R. B., Euclid Ave., Waycross
 Collins, Mrs. B., 902 Gilmore St., Waycross
 DeLoach, Mrs. A. W., 501 Folks St., Waycross
 Ferrell, Mrs. T. J., St. Mary's Dr., Waycross
 Flanagan, Mrs. W. M., 410 Remshars St., Waycross
 Folks, Mrs. W. M., Cherokee Dr., Waycross
 Gay, Mrs. J. R., Homerville
 Hafford, Mrs. W. C., 229 Riverside Dr., Waycross
 Johnson, Mrs. R. L., 509 Nichols St., Waycross
 Muecke, Mrs. H. W., Clifton Grove Ave., Waycross
 Minchew, Mrs. B. H., 412 Williams St., Waycross
 Mixon, Mrs. W. D., 619 Nichols St., Waycross
 McCullough, Mrs. K., Satilla Dr., Waycross
 Oden, Mrs. L. H., Blackshear
 Penland, Mrs. J. E., 912 Elizabeth St., Waycross
 Pierce, Mrs. L. W., 1003 Atlantic Ave., Waycross
 Pomeroy, Mrs. W. L., Canal Rd., Waycross
 Reavis, Mrs. W. F., 1105 Satilla Dr., Waycross
 Sawyer, Mrs. James, Folkston
 Seaman, Mrs. H. A., Brunnel St., Waycross
 Smith, Mrs. Leo, 307 Kollock St., Waycross
 Stephens, Mrs. C. M., 312 Hill St., Waycross
 Walker, Mrs. J. L., 302 Gilmore St., Waycross
 Walker, Mrs. R. C., 502 Gilmore St., Waycross
 Walden, Mrs. K. C., 707 Haines Ave., Waycross
 Witmer, Mrs. C. A., 501 Gilmore St., Waycross

Carswell, Mrs. H. J., 311 State St., Waycross

NINTH DISTRICT

Manager—Mrs. C. J. Roper, Jasper

Barrow County

President—Mrs. W. T. Randolph, Winder
 Members

Adams, Mrs. Robert, Winder
 Almand, Mrs. C. B., Winder
 Harris, Mrs. E. R., Winder
 Mathews, Mrs. W. L., Winder
 McDonald, Mrs. E. M., Winder
 Randolph, Mrs. W. T., Winder
 Ross, Mrs. S. T., Winder
 Russell, Mrs. A. B., Winder

Cherokee-Pickens Counties

President—Mrs. T. J. Vansant, Woodstock
 Members

Coker, Mrs. Grady N., Canton
 Brooks, Mrs. George Carter, Canton
 Boring, Mrs. James R., Canton
 Jones, Mrs. R. T., Canton
 Pettit, Mrs. John T., Canton
 Robinson, Mrs. George Gaylord, Tate
 Roper, Mrs. C. J., Jasper
 Turk, Mrs. John Pierce, Nelson
 Vansant, Mrs. T. J., Woodstock

Habersham County

President—Mrs. C. M. Sharp, Alto
 Members

Ayers, Mrs. C. L., Toccoa
 Brabson, Mrs. T. H., Cornelia
 Crow, Mrs. H. E., Alto
 Duckett, Mrs. P. Y., Cornelia
 Garrison, Mrs. D. H., Clarkesville
 Garrison, Mrs. W. H., Clarkesville
 Harden, Mrs. O. N., Cornelia
 Hardman, Mrs. C. T., Tallulah Falls
 Jackson, Mrs. J. D., Clarkesville
 Roberts, Mrs. B. J., Cornelia
 Lamb, Mrs. E. H., Cornelia
 Schaefer, Mrs. Bruce, Toccoa
 Sharp, Mrs. C. M., Alto
 Wheelchel, Mrs. F. C., Alto

Jackson County

President—Mrs. L. C. Allen, Hoschton
 Members

Allen, Mrs. L. C., Hoschton
 Allen, Mrs. M. B., Hoschton
 Freeman, Mrs. Ralph, Hoschton

Forsyth County

Members at Large
 Mashburn, Mrs. Marcus, Cummings
 Hunter, Mrs. J. T., Cummings

TENTH DISTRICT

Manager—Mrs. D. N. Thompson, Elberton

Clarke County

President—Mrs. Weyman Davis, Cloverhurst Ave., Athens

Members

Banister, Mrs. H. G., Ila
 Birdsong, Mrs. W. H., University Dr., Athens
 Brown, Mrs. Stewart, Royston
 Brown, Mrs. W. W., Woodlawn Ave., Athens
 Bryant, Mrs. C. H., Comer
 Cabaniss, Mrs. W. H., Jefferson Rd., Athens
 Dickens, Mrs. C. H., Madison, Ga.
 Goss, Mrs. R. M., Milledge Ave., Athens
 Harris, Mrs. H. B., Prince Ave., Athens
 Holliday, Mrs. Henry, Stanton Way, Athens
 Hubert, Mrs. M. A., Highland Ave., Athens
 Kelley, Mrs. G. W., Carlton
 Loden, Mrs. G. L., Colbert

(Continued on Page 471)

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

"WHEN, WHEREAT AND WHO TO"

(Will Rogers)

These are the questions that are having to be answered more and more each day by persons born in Georgia. These questions are easy to answer with legally acceptable proof if a person has a properly recorded birth certificate.

After having experienced considerable trouble getting his birth registered in order to obtain a passport, the late Will Rogers made the following statement, "A registered birth certificate ain't necessary to prove that you were born, but a birth certificate is necessary to prove *when, whereat and who to.*" These are the important facts which we are called upon to prove on many occasions.

Changing social and economic conditions have increased the necessity for complete registration of every birth and death occurring in our State. Let's take for instance one baby and follow it throughout its lifetime and see the number of uses he or she may have for a registered birth certificate.

Probably the first use for this record would be to prove age for entering school, as many cities, counties, and states require that a child be six years old before entering school. The next use for this certificate would probably be to prove that he or she is under a certain age in order to enter a 4-H Club contest or play on an American Legion Baseball Team. Then comes the time to obtain one's first job. The existing child labor laws and the Fair Trades Act require that boys or girls attain a certain age before they are allowed to work. Then in many states it is necessary to prove age before obtaining an automobile drivers' or marriage license. Many large industrial firms require a registered birth certificate on each employee in order that they may know they are working only American citizens.

The current preparedness program has brought home the great need for birth registration in that each boy or man joining the Army or Navy must prove his age and citizenship. All workers in manufacturing plants producing goods under government contracts are required to produce a registered birth certificate. This has caused considerable trouble in that many of these persons have been put off their jobs because they were unable to produce these records. This has caused much greater hardship on Georgians who have migrated to other states than upon natives of other states which have been registering births for a longer period of time.

Persons who appear much younger than their

age are sometimes required to produce a proof of age in order to vote. A registered birth certificate is accepted as such proof. In order for an American to re-enter the United States after leaving its borders, he or she will be required to produce a registered birth certificate or a passport; to get a passport you must have a birth certificate.

As time goes on Georgians will be required to produce a registered birth certificate in order to collect old age pensions. At the present time a registered birth certificate for all children and a death certificate for one or both parents are necessary in settling Social Security and Veterans Bureau claims.

It may be interesting to note that Georgia was one of the first states to enact a law providing for birth registration. This law was passed by the legislature in 1823. However, our present Vital Statistics Law was not passed until 1914 and the Bureau of Vital Statistics did not begin operation until Jan. 1, 1919, due to the fact that no appropriation was made.

Our law, based upon the old model law of 1907, should be revised and brought up to date. It should be patterned after the new model law of 1939 which has already been adopted by many states.

Our present law requires that a stillbirth be reported both as a birth and as a death, making it necessary for the physician to sign two certificates. The new law provides that stillbirths be reported on a single special stillbirth certificate form. This is just one of the many advantages of the new modern Vital Statistics Law. We hope to get our law amended during the coming session of the legislature so that the registration of births and deaths may be simplified as much as possible for the physician and others concerned with the proper registration of births and deaths occurring in our State.

Don't violate the law by failing to report each birth and each death occurring in your practice. The State Vital Statistics Law provides that, "Within ten days after the date of each birth, there shall be filed with the local registrar of the district in which the birth occurred a certificate of such birth, which certificate shall be upon the form adopted by the State Board of Health, with a view of procuring a full and accurate report with respect to each item of information enumerated in Section 14 of this Act. In each case where a physician, or midwife, or person acting as a midwife was in attendance upon the birth, it shall be the duty of such person to file in accordance herewith the certificate herein contemplated."

In regard to the filing of a death certificate the law reads as follows: "That the body of any person whose death occurs in this State, or which shall be found dead therein, shall not be interred, deposited in a vault or tomb, cremated, or otherwise disposed of or removed from or into any registration district, or be temporarily held pending further disposition more than seventy-two hours after death, unless a permit for burial, removal, or other disposition thereof shall have been properly issued by the local registrar of the registration district in which the death occurred or the body was found. And no such burial or removal permit shall be issued by the registrar until, where practicable, a complete and satisfactory certificate of death has been filed with him as hereinafter provided."

"The medical certificate shall be made and signed by the physician, if there was any, last in attendance on the deceased, who shall specify the time in attendance, the time he last saw the deceased alive, and the hour of the day at which the death occurred. And he shall further state the cause of the death, so as to show the course of the disease or sequence of causes resulting in the death, giving first the name of the disease causing death (primary cause) and the contributory (secondary) cause, if any, and the duration of each. Indefinite and unsatisfactory terms, denoting only symptoms of disease or conditions resulting from disease will not be held sufficient for the issuance of a burial or removal permit and any certificate containing only such terms, as defined by the State Board of Health, shall be returned to the physician or person making the medical certificate, for correction and more definite statement. Causes of deaths which may be the result of either disease or violence shall be carefully defined; and if violence, the means of injury shall be stated, and whether (probably) accidental, suicidal, homicidal. And for the deaths in hospitals or institutions, or of non-residents, the physician shall supply the information required, if he is able to do so, and may state where, in his opinion, the disease was contracted."

Remember that a child who has nothing to do with whether or not bills are paid is made to suffer inconveniences throughout his or her lifetime if you failed to sign his or her birth certificate. We are hoping that the new Vital Statistics Law will make this duty easier for the physician, who is doing more than his share in helping to give the State of Georgia complete registration.

The State Department of Public Health takes this opportunity to thank the physicians of Georgia for their splendid cooperation in helping to put this program across.

Let's recapitulate the necessity for proving when, whereat and who to a person was born. The *when* proves age for entering school, con-

tests, obtaining a job, a driver's license, a marriage license, for entering the Army or Navy, for voting, for obtaining aid for dependent children and collecting Social Security benefits at the age of 65 years.

The *whereat* is a very important factor in proving one's citizenship, a very important factor in times such as the present.

The *who to* of Will Rogers' statement is very important for establishing citizenship, for identification, for settling Social Security claims, and in settling estates of the parents.

It should always be remembered that each certificate you sign will be preserved in the records of our State just as you sign it, and should, therefore, be written plainly so that your record may be easily read when the time comes to use this certificate for any of the above purposes.

DAVID WOLFE, M.D., Director,
Division of Information and Statistics.

ANEMIA IN PREGNANCY

At times it is not amiss to discuss the commonplace and emphasize the obvious. That anemia militates against prompt and complete recovery from acute illness, surgical operations, and childbirth is ridiculously apparent.

Most authorities have found that two out of three pregnant women develop moderate or severe anemia. Indeed, it is so commonly encountered that at one time it was regarded by many as being "physiological." This opinion was probably based upon the fact that an increase in blood volume occurs during pregnancy, and that fluid elements of the blood contribute largely to this increase, often producing a hydremia with a relative anemia, rather than any great decrease in the total red blood cells, or hemoglobin. Even so, a given volume of blood under these conditions is less equipped to perform its functions, whether the anemia be relative or absolute, and the practical effects would be essentially the same.

Primary blood dyscrasias can, of course, manifest themselves during pregnancy; and there is, in addition, a primary anemia that seems to be peculiar to pregnancy alone. However, these are rarely encountered, and the great aggregate of anemia in pregnancy falls into the class of "secondary" or "hypochromic", with greater proportionate lowering of hemoglobin, than red cells.

This group may be subdivided as follows: (1) Acute blood deprivation following moderate or severe hemorrhage from any cause; (2) Chronic secondary anemia definitely ascribable to blood loss or destruction (intestinal parasites, malaria, small repeated bleeding, such as hemorrhoids, etc.); (3) Hypochromic anemia of non-specific origin, which is by far the commonest and is designated variously as "nutritional

anemia", "anemia from iron starvation", etc.

It is recognized that chronic anemia results in greater lowering of general resistance than an acute anemia of comparable degree. A pregnant woman who has this condition is peculiarly vulnerable, since she is apt later to experience hemorrhage or infection, the dangers of either of which are multiplied by the pre-existing blood deficiency.

Nutritional anemia is, to a considerable extent, preventable by inclusion in the diet of adequate amounts of eggs, meats, whole grain cereals, and iron-containing vegetables (spinach, greens, raisins, apricots, prunes, apples, beans, peas) and by the securing of abundant sunlight. It is likely that vitamins are involved, to some extent.

A properly ferruginous diet is difficult or impossible for many women to obtain. Unfortunately, dietary regimens designed to combat gestational toxemia are more apt than not to restrict greatly some of these foods, whether rightly or wrongly. This handicap is further increased by a tendency on the part of many physicians to limit proteins to some extent throughout normal pregnancy, and rather stringently toward term, as a sort of "toxemia prevention measure." While gross overeating is obviously unwise, no useful purpose is served by restricting the protein intake of the normal gravida, to a point where iron metabolism suffers. Once anemia has appeared, it will respond but slowly to corrective diet alone, and the feeding of complementary iron is necessary to restore the hemoglobin level.

Though not always preventable, hypochromic anemia in pregnancy is easily detected, and nearly all patients respond readily to simple, inexpensive, convenient treatment. Primary pregnancy anemia, or some of the rarer dyscrasias, can be diagnosed only by complete blood count. The "secondary" condition so commonly encountered in pregnancy requires merely a hemoglobin estimation for its detection. Inasmuch as hemoglobin may decline progressively throughout pregnancy, a good level at the outset by no means assures that the patient will reach term with the same reading. This determination, however, made at intervals of 6 or 8 weeks, and the institution of iron feeding whenever it falls below 80 per cent (11.5 Gm.), presents an easy, practical and effective routine for handling the condition.

Apparently any U.S.P. preparation of inorganic iron is equally acceptable to another. Some of the refined and expensive preparations, particularly those consisting principally of organic iron, seem to be definitely less effective than cruder drugs. The sole requirement is that enough actual iron be given. Daily dosage should be the equivalent of 8 to 15 grains of metallic iron, and, of course, this varies with the particular salt chosen. Many physicians err on the side of under-dosage, and under such han-

dling the severe anemias are refractory or respond but slowly. No serious ill effects result from too much iron. The only unpleasant symptom from large doses may be the development of gastric disturbances in some patients, in which event a change to another preparation may be made, and the dose tempered to some extent.

Some of the effective official preparations are: ferrous sulphate, 12 to 25 grains daily; ferrous carbonate (Blaud's pills), 15 to 30 grains daily; saccharated ferrous carbonate, 75 to 150 grains daily; ferrous ammonium citrate, 45 to 90 grains daily; and reduced iron, 8 to 15 grains daily. If sufficient iron be taken by mouth, rarely indeed is hypodermic or intravenous administration necessary.

H. J. BICKERSTAFF, M.D.

Division of Maternal and Child Health.

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(Continued from Page 468)

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BOOK REVIEW

The Art of Anaesthesia. By Paluel J. Flagg, M.D., Visiting Anaesthetist to Manhattan Eye and Ear Hospital, Chairman of the Committee on Asphyxia of the American Medical Association, pp. 480, with illustrations. J. B. Lippincott Co., Philadelphia.

The Art of Anaesthesia is an excellent textbook. It is recommended for beginners and medical students because it is simply, clearly and interestingly written.

The introduction presents a short history of anaesthesia; the pre-anaesthetic period ending in 1842 with the beginning of the anaesthetic period when Dr. Crawford W. Long first used ether to alleviate the pain of surgical operations.

The remainder of the book is divided into two parts. Part I is devoted to the classification of anaesthesia, its characteristic signs and its administration by the various methods ordinarily employed. Part II deals with the factors incidental to the actual administration of the anaesthetic and with new agents and methods.

Of especial interest is the chapter, "The Point of View of the Patient," which emphasizes the necessity of careful preoperative preparation such as premedication and the psychologic reactions of the patient.

Many other phases of anaesthesiology, such as emergency anaesthesia, deaths under anaesthesia, resuscitation and oxygen therapy are discussed.

Dr. Flagg, having devoted a life time to anaesthesia, knows the great importance it plays in the well-being of the patient before, during and after the operation. He stresses the advantage of having a trained medical anaesthetist who understands all the physiologic reactions of the patient while under the influence of anaesthetic agents.

HAYWARD PHILLIPS, M.D.

NEWS ITEMS

GRADY HOSPITAL, Atlanta, shows in its annual report for 1939 the daily average of medical and hospital services rendered patients as follows: patients admitted, 58; births, 10.8; patients hospitalized, 483; operations per-

formed, 17; fractures treated, 1.1; prescriptions filled, 843; patients x-rayed, 49; laboratory tests, 538; meals served, 3,823; patients visited the clinics, 717. Total ambulance calls made, 11,507; patients treated in emergency clinic, 151; patients spent 1,766,606 days in hospital.

THE FOURTH DISTRICT MEDICAL SOCIETY met at the City-County Hospital, LaGrange, August 14. Titles of papers on the scientific program included: *Induction of Labor—Summary of Cases*, by Dr. W. P. Phillips, LaGrange; discussed by Dr. Chas. B. Upshaw and Dr. Fred Minnich, both of Atlanta. *Treatment of Skin Cancer—Patients Presented*, Dr. Enoch Callaway, LaGrange; discussed by Dr. J. Elliott Scarborough, Emory University. *Head Injuries—Presented Patient*, Dr. Kenneth D. Grace, LaGrange; discussed by Dr. Edgar F. Fincher, Atlanta. *Diabetes and Exophthalmic Goiter—Presented Patient*, Dr. H. H. Hammett, Jr., LaGrange; discussed by Dr. D. Henry Poer, Atlanta. *Hemolytic Icterus—Presented Patient*, Dr. W. H. Clark, LaGrange; discussed by Dr. Roy Kracke, Emory University. Lunch was served at the Highland Country Club.

DR. ROBERT C. MAJOR announces the opening of an office for the practice of thoracic surgery and related bronchoscopy in the Medical Arts Building, 384 Peachtree Street, N. E., Atlanta.

DR. W. FRANK WELLS, Atlanta, has been appointed Fulton County physician in charge of medical service for prisoners at public work camps.

DR. EDGAR H. GREENE, 478 Peachtree Street, N. E., Atlanta, has been appointed chairman of the Committee on Medical Preparedness of the American Medical Association for Georgia.

DR. WADLEY R. GLENN, Atlanta, has been elected to the Board of Directors of the Trust Company of Georgia.

DR. J. F. COVINGTON, formerly of Canton, has moved to Monroe where he will continue the practice of medicine.

DR. J. L. DOBSON announces the removal of his office to 26 Linden Avenue, N. E., Atlanta.

The monthly staff meeting of EMORY UNIVERSITY HOSPITAL was held on September 3. Dr. J. E. Scarborough reported a case, *Tumor of the Parotid Gland*; Dr. Earl Rasmussen reviewed reports of twelve cases of *Mesenteric Adenitis*.

THE BIBB COUNTY MEDICAL SOCIETY met in the Doctors' Building, Macon, September 3. Dr. Thomas Harold and Dr. G. Y. Massenburg discussed *Salpingo-oophorectomy with Appendectomy for a Large Teratoma of the Right Ovary* and the *Montgomery-Simpson Suspension for Retroversion of Uterus*.

DR. JACK C. NORRIS, Atlanta, has been elected president of the American Association of Medical Milk Commissioners.

DR. O. C. WOODS, Milledgeville, has been elected a fellow of the American College of Surgeons.

OBITUARY

Dr. George W. Willett, Atlanta; Bellevue Hospital Medical College, New York, N. Y., 1893; aged 72; died on August 12, 1940, in his apartment of heart disease.

Dr. Willet W. Binion, Benevolence; member; Emory University School of Medicine, Emory University, 1885; aged 80; died on August 13, 1940, at his home after a long illness. The greater part of his life was spent in Randolph county where he was a successful farmer and practitioner. Dr. Binion served on the Randolph County Board of Education for a number of years. He was a loyal member and deacon in the Baptist church. Surviving him are his widow; three daughters, Mrs. Willard Harmon, Apopka, Fla.; Mrs. Lewis Horne, Milledgeville; and Mrs. Emma Frances Newberry, Benevolence; two sons, Clay Binion, Apopka, Fla.; and Reke Binion, Benevolence. Rev. J. W. Hamm officiated at the funeral services conducted at the Baptist church. Members of the Randolph County Medical Society were honorary pallbearers.

Dr. Napoleon Gustavus Gewinner, Macon; member; Medical College of the State of South Carolina, Charleston, S. C., 1879; aged 83; died on August 19, 1940, at a private hospital in Atlanta. He was a native of Charleston, S. C., but had been a resident of Macon for 63 years. Dr. Gewinner recently observed his 59th anniversary as a practicing physician in Macon. While engaged in general practice, he was more interested in obstetrics and pediatrics and it was claimed that he delivered 5,000 babies. He had a large private library and visited others frequently so he was abreast of progress being made continuously. Dr. Gewinner won the affection of all who knew him by his genial and modest disposition. Surviving him are three daughters: Mrs. W. A. Gericke and Miss Roberta Gewinner, Atlanta, and Miss Hazel Gewinner, Macon; three sons, John K., Tom, and Holt Gewinner, all of Macon. Father Peter McDonnell officiated at the funeral services conducted at St. Joseph's Catholic church. Burial was in St. Joseph's cemetery.

Dr. John Coskery Wright, Augusta; member; University of Georgia School of Medicine, Augusta, 1908; aged 57; died on August 22, 1940, at his summer residence near Beaufort, S. C. The expressions of affection and trust by those who knew him best are a memorial to his memory. He gave generously of his time and talent to the treatment of charity cancer patients at the Cancer Clinic of the University Hospital and served for many years as gynecologist. He dealt tenderly with all charity patients and won their affection. It was said that no one ever heard him speak an unkind word. To quote Dr. G. T. Bernard, "Our city has lost a good doctor and a good citizen, a man 'who didn't know how to be anything but a gentleman.'" He was a member of the Richmond County Medical Society, American Medical Association and the First Baptist church. Surviving him are his widow, two daughters, Misses Elizabeth and Harriett Alice Wright; two sons, Lewis H. and John David Wright. Rev. Paul Caudill officiated at the funeral ser-

vices conducted at the residence, 726 Hickman Road. Burial was in Westover Memorial Park.

Dr. Pleasant Henry Askeu, Sr., Nashville; member; University of Georgia School of Medicine, Augusta, 1897; aged 68; died August 11, 1940, in a Thomasville hospital. He was a native of Webster county. Dr. Askeu was president of the United Banking Company, owner of Hotel Nashville, the Liberty and Union Tobacco warehouses and owner of a large farm. He served on the city council and board of education. Dr. Askeu practiced continuously in Berrien and adjoining counties from the time he graduated in medicine until he retired. He was a prominent business and professional man and one of the State's best citizens. Rev. J. O. Stanaland and Elder F. W. Hartley officiated at the funeral services conducted at the Methodist church. Interment was in the city cemetery.

Dr. Henry Madison Tolleson, Eastman; member; Emory University School of Medicine, Emory University, 1928; aged 38; died at his home on September 1, 1940. He was a native of Henry county. Dr. Tolleson was reared by an aunt, Mrs. H. M. Turner, after his parents died while he was quite young. He served as an intern at Emory University Hospital and at the Macon Hospital. He began practice at Smithville, then moved to Hahira where he practiced for a short time before he moved to Eastman and was associated in practice with Dr. Warren A. Coleman at the Coleman Sanatorium. Dr. Tolleson enjoyed the esteem and friendship of many people and especially his patients. He was a member of the Ocmulgee Medical Society, American Medical Association and the Baptist church. Surviving him are his widow, two small daughters, Betty and Sylvenia. Rev. W. C. Oakes officiated at the funeral services conducted at the McDonough Baptist church. Burial was in the McDonough cemetery.

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No antiricketic substance will completely straighten bones that have become grossly misshapen as the result of rickets. But Oleum Percomorphum can be depended upon to prevent ricketic deformities if given early and in adequate dosage. This is not true of all antiricketic agents, many of which are so limited by tolerance or bulk that they cannot be given in quantities sufficient to arrest the ricketic process promptly, with the result that the bones are not sufficiently calcified to bear weight or muscle-pull and hence become deformed.

WARNING

Physicians in Alabama and Tennessee have complained that a Mr. C. W. Myers, who claims to be representing F. A. Davis Company of Philadelphia, has taken orders for books, collected for them at the time and failed to deliver them.

He will probably attempt to continue his fraudulent operations in the southern states. Any information should be referred to the Better Business Bureau in your city or Philadelphia or to F. A. Davis Company, 1914 Cherry St., Philadelphia.

HIGHLY ACTIVE VITAMIN K SUBSTANCE OFFERED BY SQUIBB IN THYLOQUINONE

Thyloquinone, 2-methyl-1, 4-naphthoquinone, a synthetic preparation of unsurpassed vitamin K activity, has been placed upon the market by E. R. Squibb & Sons, New York. Dissolved in corn oil, Thyloquinone is supplied in two forms for oral administration—as solution and in small capsules (Microcaps).

Ansbacher and Fernholz of the Squibb Institute for Medical Research were the first to demonstrate the high biologic activity of 2-methyl-1, 4-naphthoquinone. Later reports from many different laboratories have confirmed their findings. The substance, for which the Squibb name is Thyloquinone, is more potent, more rapid in action and more economical than naturally occurring vitamin K₁ or K₂ or any concentrate of these vitamins.

The clinical indications for Thyloquinone are the same for vitamin K concentrate. The chief uses, which have had repeated confirmation are:

1. To cure or prevent hemorrhage in obstructive jaundice, biliary fistula and liver insufficiency.
2. To prevent or treat hemorrhage in the newborn by administration to the expectant mother or to the infant immediately after birth. These will probably prove to be the most important indications for the use of Thyloquinone, since intracranial hemorrhage, which is one of the major causes of death among the newborn, seems undoubtedly to be the direct result of prolonged prothrombin clotting time.

In addition to the confirmed uses, Thyloquinone is indicated for the oral treatment of hemorrhage associated with subnormal blood prothrombin content due to vitamin K deficiency.

Thyloquinone in Oil is supplied in 5 cc., 10 cc., and 50 cc. vials, each 1 cc. of corn oil containing 1 mg. Thyloquinone. Thyloquinone in Oil in Microcaps, representing 1 mg. Thyloquinone in corn oil, individually sanitized, is marketed in boxes of 20, 50 and 100. ("Microcaps" is the Squibb trade-marked name for miniature precision-filled gelatin capsules.)

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THE USE OF PENTOTHAL SODIUM- OXYGEN ANESTHESIA AS A TOTAL ANESTHETIC AGENT IN MAJOR SURGICAL PROCEDURES

T. C. DAVISON, M.D.
FRED F. RUDDER, M.D.
Atlanta

Eighteen months' experience with this new thio-barbiturate in a representative group of cases leads us to believe that its place has been established in the field of anesthesia.

One of us (T. C. D.) introduced this anesthetic agent in Atlanta in December 1938.¹ We have used it exclusively in all our cases, both private and service, since that time. Our report is based on 1,524 consecutive cases, all in Atlanta hospitals. The majority of these anesthetics were given by the anesthetist staff at the Georgia Baptist Hospital and more than 50 per cent of all the anesthetics now given at that institution are pentothal sodium. Due to the fear of explosion from the inhalation anesthetics, this anesthetic agent is gaining in popularity in the other Atlanta hospitals.

Pentothal sodium (sodium-ethyl 1 methyl, butyl thio-barbiturate) in our experience is far superior to any other intravenous anesthetic agent. The two factors that account for this are: (1) it is an ultra-short acting barbiturate, and (2) it is rapidly destroyed in the body. Thus, if administered correctly, it is controllable and is a relatively safe anesthetic agent to use.

In reviewing all the available literature we tried out several methods of administering this drug. These methods proved unsatisfactory because an assistant in addition to an anesthetist was required, and often the needle used in the vein became occluded.

Realizing the potentialities of this drug if administered correctly we originated a method by which one anesthetist, without assistance, could give an anesthetic of any duration without any difficulty from clotting or dislodging needle from the vein.

One of us (F. F. R.) devised a syringe holder with a rack and pinion gear that has solved this problem (see photograph and drawing)². The movable arm has a two-fold function: (1) by turning the gear wheel the drug is given drop by drop as needed; and (2) it prevents any back-flow of blood into the needle. With this apparatus no difficulty in the administration of the drug has been encountered in the past 16 months.

TABLE I
TYPES OF OPERATIONS:

General Surgery	656
Gynecology	361
E.E.N.T.	129
Orthopedic	87
Urology	165
Neuro-Surgery	54
Dental Surgery	16
Plastic Surgery	48
Others	8
Total	1,524

This anesthetic agent has been put to a considerable test in that all types of operations have been done. Approximately 15 per cent of the patients were beyond the fifth decade of life, and 14 per cent were fair or poor risks. Our reactions are based on the experience from operations in general surgery and gynecology. Other surgeons in their specialties are equally enthusiastic when they use this drug. This anesthetic is a God-send to the aged patient. Their normal metabolic functions are upset but little; children tolerate it well when the dose is not too large. The fair and poor risk patients have a much better chance under this anesthetic.

¹Read before the Medical Association of Georgia, Savannah, April 24, 1940.

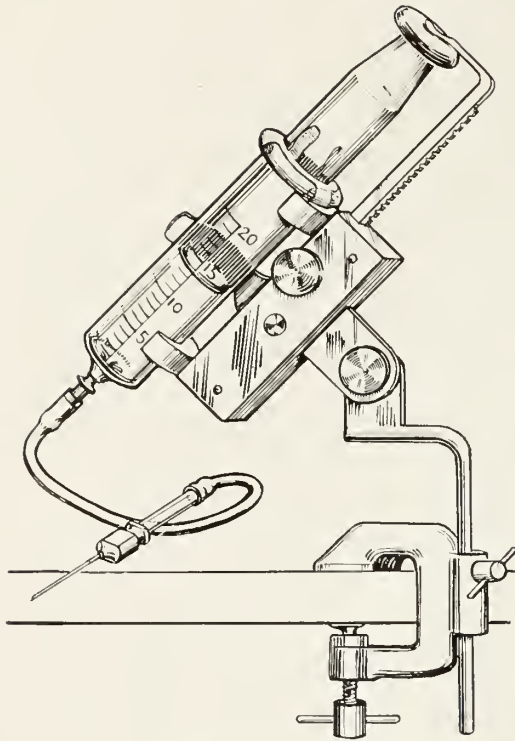


Fig. 1. Drawing showing construction and adjustability of apparatus.

TABLE II
DOSAGE—(In Grams)
No.

Type of Operation	No. of Cases	Smallest	Largest	Average
Appendectomy	300	0.45	2.1	1.1
Hysterectomy	64	1.1	3.4	1.8
Cholecystectomy	24	1.0	3.8	2.2
Thyroidectomy	50	0.5	1.7	1.2
Herniotomy	36	0.8	3.0	1.5
Gastroenterostomy	15	1.0	4.0	2.4
Resection of colon.....	9	1.0	3.5	1.7
Perforated peptic ulcer ..	6	1.7	2.5	2.2
Gastric resection	3	1.4	2.4	1.8

This drug, like ether or any other of the anesthetic agents, must be given in sufficient quantities to produce anesthesia. No two patients react alike. We have tabulated the smallest, the largest and the average dose in a representative group of operations. The same factors obtain: patients who come to the operating table sufficiently narcotized require a much less dose; the duration of the operation and the gentleness in handling tissues all play a role. The highly excitable patient (especially children) may require over a gram before the operation can start. Alcoholics react similarly. Preoperative medications cannot be

stressed too much. Local block anesthesia for the skin and peritoneum will appreciably reduce the total amount of the drug. Once surgical anesthesia has been established very little of the drug is needed. Only a few drops at a time will maintain anesthesia at any desired level.

Technic of Administering the Drug

A 2.5 solution is made by dissolving 1 gram of the drug in 40 cc. of distilled water. The solution should be used while fresh. A 2.5 per cent solution reduces the chances of phlebitis and allows for a greater margin of safety than does a 5 per cent solution.

A blood pressure cuff is attached to the arm not to be used for venopuncture. This arm is held at the side of the body. The other arm is extended on an arm board. A vein in the cubital fossa is best, but veins at the wrist or on the back of a hand may be used equally well. The syringe holder is then adjusted on the arm board. A 20 gauge needle one inch long with a short bevel is used. It is best to attach this needle to a syringe that is partially filled with saline and enter the vein. The rubber tubing from the syringe is then connected to the needle.

With the patient talking or counting aloud the drug is given slowly by turning the gear wheel. After 8-10 cc. are given in 3/4 to 1 minute the patient drops off into a normal sleep. A B-L-B face mask is then adjusted and oxygen given in sufficient amounts to counteract anoxemia. Three liters per minute is sufficient for the average case. After waiting 3/4 to 1 minute the patient is given 2-3 cc. more and then pinched with toothed forceps and if there is no movement the operation may start. The drug is given only as needed. The first indication is increase in the depth of respiration, and later movement and phonation. With deep anesthesia respirations are shallow. The eye signs are of no value. The pulse rate and the blood pressure remain practically the same throughout the operation.

Contraindications

As far as the drug is concerned contraindications are very few. They are:

1. An anesthetist not trained in its use. This powerful agent that can produce profound surgical anesthesia in less than one minute should not be given by any anesthetist who has not become familiar with its action, and who has not by personal instruction familiarized himself with its clinical application.

2. The slow operator, the "piddler" and the "rough operator" should not use this drug because in large doses over 2 grams there is an accumulative effect and the proper dosage is difficult to evaluate.

3. Operations on the nose, mouth, or throat should not be done unless blood or secretions can be kept out of the air passages.

4. Patients suffering with bronchiectasis, with lung abscess, with bronchopleural fistula, or tuberculosis with cavitation, should not be given this drug.

5. Jaundiced patients and patients with considerable liver destruction from metastatic lesions have tolerated the drug well.

Preoperative Medication

Preoperative medication is very important. It reduces to a great extent the amount of drug necessary to use. We give a barbiturate at 9 P.M. the night preceding the operation and repeat the dose two hours before the operation. We use cyclopal sodium (one capsule $2\frac{1}{4}$ gr.) one of the newer barbiturates because it is less depressing and its action is shorter. One hour before operation we give a hypodermic of pantopon grain $\frac{1}{3}$ and atropine grain $\frac{1}{150}$. Pantopon is used instead of morphine because postoperative nausea with morphine is about 7 per cent whereas with pantopon it is less than 2 per cent.

Atropine is one of the "musts" in pentothal anesthesia and it should be given in all cases because it reduces to a minimum the possibility of laryngeal spasm, hiccoughs, tremors, sneezing and coughing.

Conditions That Have Caused Concern During Anesthesia

1. Tremors, hiccoughing, sneezing and vomiting are occasionally encountered when atropine has not been used postoperatively. Hiccoughing is the most frequently en-

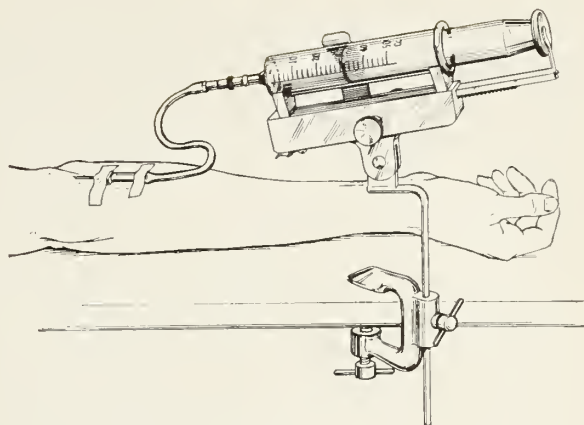


Fig. 2. Detailed drawing showing apparatus set up for use.

countered and it is easily controlled by deeper anesthesia.

2. Anoxemia, pallor, cyanosis and shallow respirations are always seen when oxygen is not used. This condition can be remedied by the continuous use of oxygen throughout the operation, as advocated by Carraway.³ Three liters per minute usually is sufficient for the average patient; CO₂ may also be given if needed.

3. Shock is occasionally encountered in prolonged operations where it is necessary to give large doses. Glucose 5 per cent intravenously and metrazol 1-2 cc. intravenously will usually suffice.

Conditions Causing Concern Postoperatively

1. Prolonged sleep. A patient who has received a large dose over a short period of time will sleep from 8-12 hours and at times even longer. This is also true of children under ten years of age. The pulse is usually rapid, and also the respirations.

2. Hyperpyrexia of 102°-103° F. is occasionally seen in this type of patient. The high fever usually comes down within 6-8 hours. We are unable to explain this rise in temperature. No ill effects from prolonged sleep and high temperature have occurred. Picrotoxin, 2 cc. of a three-tenths per cent solution, has been given every 30-45 minutes until patient begins to react; also metrazol 1-2 cc. intravenously will bring about a rapid response.

Delayed Shock. In prolonged operations we have noticed that until the patient begins to react there is no evidence of shock; then suddenly the blood pressure falls, the

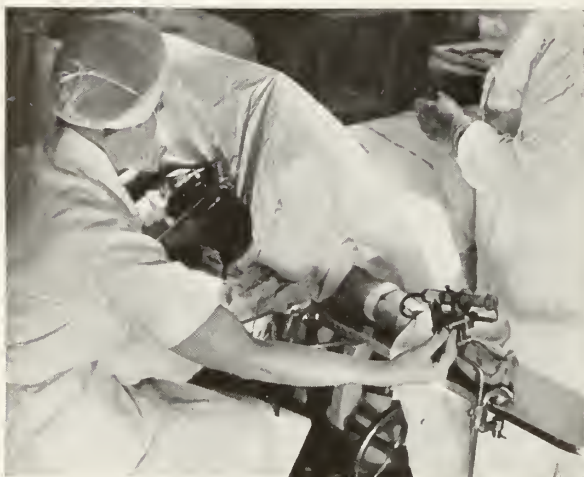


Fig. 3. Shows anesthetist holding patient's chin up with one hand and administering sodium pentothal from syringe by simply turning the gear wheel on the syringe holder. Note B-L-B face mask for the continuous administration of oxygen.

pulse rate increases and if proper measures are not taken shock is impending. The nurse records the pulse every 15 minutes until the patient reacts; the blood pressure is taken every 30 minutes. For a blood pressure below 95 (systolic) the foot of the bed is elevated, caffeine sodium benzoate grains $7\frac{1}{2}$ are given and 5 per cent glucose is given intravenously.

Drug idiosyncrasy has occurred twice. Both patients had a fine rash over their bodies, temperature 102° - 103° F. This condition cleared up within 48 hours.

Phlebitis. While a 5 per cent solution was being used two cases of phlebitis occurred. The veins in both patients were large and their scleroses complete, extending from the elbow to the deltoid region. Both patients recovered with no ill effects. No cases have occurred where a $2\frac{1}{2}$ per cent solution was used.

Duration of Anesthesia

The criterion for a good pentothal anesthetic is to have the patient moving about before leaving the operating table. This is possible where the total dosage of less than 1.5 grams are used. Larger doses are usually required for prolonged operative procedures, and these patients do not awaken for some 3-4 hours. The shortest time was 10 minutes for incision and drainage of abscess, and the longest time was 8 hours. The average time was 40 minutes.

The 8 hour operation began at 9 A.M.

and ended at 5 P.M. A pineal tumor was removed from a 12 year old boy. Only 1.5 grams were used during this time. This patient two weeks before had received 1.2 grams for a craniotomy. His recovery was uneventful.

After the first 1.5 grams are given there is an accumulative effect of the drug and its further use should be attended with great care. Once the patient is anesthetized, very little of the drug is needed.

Results of Anesthesia

From the patient's standpoint the anesthetic is ideal. It is 100 per cent satisfactory. They drop off into a natural sleep without any choking, straining or stage of excitement. Their reaction is just as dramatic. They awaken as if from a refreshing sleep. There has been no refusals. For the second operations the patients demanded it. As one intern said, "I would change my surgeon before I would change my anesthetic."

From the surgeon's standpoint less than $\frac{1}{2}$ of 1 per cent were unsatisfactory and these cases occurred early in this series before the anesthetists reached their present state of efficiency.

Relaxation is the same as when spinal anesthetics are used. This holds true in the upper abdomen as well as in the pelvis. The skin remains dry and warm. Not one drop of fluid is lost by sweating during the operation.

The factor of safety stands out foremost in every surgeon's mind. Our experience leads us to believe that this drug is a relatively safe anesthetic agent when administered by an experienced anesthetist. One death occurred in which the anesthetic played a part. A Negro boy aged 23 years with bilateral active pulmonary tuberculosis was given pentothal after an attempt to remove his appendix when local anesthesia failed. The operation was completed within 20 minutes, with the patient in good condition. However, four hours later, he had a respiratory collapse and failed to respond to all life saving measures.

Summary

1. Pentothal Sodium-Oxygen anesthesia has been used as a total anesthetic agent

in a representative group of surgical operations.

2. This anesthetic agent more closely approaches the ideal anesthetic than any other agent that has been used by us in a surgical practice over a period of 25 years.
3. Anoxemia, which is always present when surgical anesthesia has been reached must be remedied by the continuous use of oxygen throughout the operation.
4. A plea is made for the anesthetists and surgeons not to get into disrepute this new anesthetic agent, which offers so much promise, by administering it without fully understanding its action.

BIBLIOGRAPHY

1. Davison, T. C., and Rudder, Fred F.: Pentothal Sodium-Oxygen Anesthesia in General Surgery, A Method of Administration, *Bull. Am. A. Nurse Anesthetists*. (Aug.) 1940.
2. Rudder, Fred F.: A Mechanical Device for the Administration of Intravenous Anesthetics (accepted for publication in the *Am. J. Surg.*)
3. Carraway, C. N.: Pentothal Sodium with Nasal Oxygen, A Report of 3810 consecutive cases, *Anesth. & Analg.* (Sept.-Oct.) 1939.

DISCUSSION ON PAPER OF DOCTORS T. C. DAVISON AND FRED F. RUDDER

Dr. R. H. Chaney (Augusta): I believe the subject which Dr. Davison and his associate have brought this morning is one of extreme interest to all of us. I had not been aware that pentothal was used quite as extensively in major surgery as indicated here. My own experience with intravenous anesthesia dates back to some years ago when an attempt was made over quite a period to use ether intravenously and it was discarded as being unsatisfactory. Then in 1924 and 1925 when sodium amytal was brought out as an experiment before it was put on the market for general use, we used it in a series of 78 major operations for total anesthesia. At that time we thought that the barbital products were fairly satisfactory for a time and then the period of depression following it became so marked and the final result not much better than other methods of anesthesia, we finally abandoned it because of the problem of after nursing care more than for any other reason. That is, with sufficient quantity of sodium amytal given intravenously, the period of depression and danger of respiratory collapse extended over a period of 68 hours and that period in the hospital made it rather disadvantageous for its use.

In 1936 I started using evipal and pentothal sodium in certain cases. We carried it out in a series of 28 operations which included two resections of the colon, five gallbladder, and the rest minor short operations which could be done under short periods of anesthesia—that is, not carry over thirty minutes. In those instances we found, much to our satisfaction, that the anesthesia did not have any drawbacks that we could see, but at the same time we were more or less holding

our opinion for someone else to step forward and bring out its use.

We have used it, differing from what he said, in short operations as office and clinic procedures not having a great deal of risk—in reductions of fractures, dislocations and minor injuries, particularly in children. It seems that a child is a great deal less apprehensive over induction of a needle into the vein than having its face covered with a mask and practically suffocating. Immediate recovery from evipal or pentothal is so prompt in children that in the last two years I make a uniform practice of using one of these two substances as anesthesia in reducing practically every fracture in children under twelve to fourteen years of age. It works a great deal better, to my notion, than block anesthesia or the induction of the local anesthesia between the injured bones.

The longest case in which I have had contact has been a bilateral resection of the fixed mandible, in which we had an anesthesia lasting six hours where we gave 4.1 grams of sodium amytal over a period of six hours and the relaxation was perfectly good. We haven't used as elaborate apparatus as indicated here. We simply use 2½ per cent solution of the drug, ordinarily in a 10 cc. syringe. As far as I can see, that has given us total relaxation and has been absolutely satisfactory and I am glad to have Dr. Davison bring out a larger group of cases of this kind.

Dr. W. A. Selman (Atlanta): It gives me pleasure to discuss this paper because since last February I have used sodium pentothal fifty times and it is a spectacular thing to see a patient drop to sleep in just a few minutes after the anesthetic is started. The anesthetist usually asks the patient to count. Frequently, by the time they count ten or twenty they are asleep and stop counting and the anesthesia at that time is usually complete and you can proceed with your work. It is remarkable in that there is no danger of excitement. Your patient drops to sleep absolutely without excitement and without moving a muscle, and wakes up the same way, with no struggling, no headache, no nausea. All the way through there is the least shock of any anesthetic that I have seen. It is more like a spinal. A great many people don't like to have a spinal. I have used spinal quite a lot in my work and frequently the patient says, "I don't want a needle put in my back. Would you want a needle rammed in your back?" They don't want to take a spinal but with this induced in the arm, they don't mind.

One reason I like to use it: we have so many epidemics, such as streptococcic sore throats, and it is really dangerous to operate on these patients at a time when they have colds. It is really dangerous to give inhalation anesthetics on account of pneumonia. Pentothal, as far as I know, has no irritation to the throat. I have given it in stomach resections, gallbladder operations, cancer of the stomach, cancer of the colon and a number of operations lasting two hours. I had one patient sleep six hours after giving it. We were giving 5 per cent solution in those days instead of 2½ per cent. She woke up with no shock and was in good condition.

I think it should be given only in hospitals. It can't reach the popularity and general use that ether has. You can't give it in as many places. Only a trained anesthetist should give it and one who has oxygen at his command. So far as danger is concerned, I don't know much about it because I haven't seen any from it. I have had faith in the anesthetists because they have been trained. I wouldn't want to take it or give it to a patient unless I knew the anesthetist had had special training in that particular type of work.

In certain conditions where nervousness is marked, like toxic thyroids, you can have the patient anesthetized before taking him to the operating room, just as if you were giving saline transfusion. You can put him to sleep without excitement, in bed, and transfer him to the operating room and proceed with the operation without excitement and without shock.

Dr. Frank H. Lahey (Boston, Mass.): Dr. Walker asked me if I would say a few words about this subject. I am particularly interested to speak about it because I have always been interested in the general subject of anesthesia and its development.

There were two or three things said that seemed to me extremely important. They were:

First, that this anesthetic agent should be administered only by one experienced in its use.

Second, it should be administered only in a hospital.

I think these are extremely important points. I think it is important to realize that the developments in anesthesia, which are very great, particularly within recent years, have brought up a point which we have not all appreciated. I have just written an editorial for *Alton Oschner* for "Surgery" on "Spinal Anesthesia, A Controversial Subject," and the point is there, I think, demonstrated. We talk about spinal anesthetics given by a surgeon and the patient watched by a nurse, or given by a house officer inexperienced in its use. Then, on the other hand, we talk about spinal anesthetics given by one experienced in its technic of employment and experienced in the selection of risks and technically experienced and expert in meeting the emergency situations which are bound to arise with the use of this drug. This is exactly a parallel situation. I speak as one of the patients who has had this kind of experience. I, personally, have had pentothal and it is a delightful anesthetic.

We have employed pentothal a good deal in prolonging spinals. When, as with spinals, we have those who are opposed to spinals and those who favor them, we must be careful that we talk about the subject from the viewpoint of when one is given by an inexperienced as compared with one who is expert.

An all-important thing, in connection with the anesthesia, has been ably stated by the reader of this paper and that is anoxemia. Anoxemia is the basis of most of the anesthetic difficulties. The early appreciation of the presence of anoxemia and the meeting of this condition has undoubtedly saved many patients' lives and when pentothal, spinal or any other anesthetic agents are employed by those who are not expert in interpreting the early presence of anoxemia and the condition is not met

early and properly, undoubtedly many lives will be sacrificed.

Now Roy McClure and the Ford Hospital, with the aid of Ketting in the Research Department of General Motors, have developed a photometric plan whereby by visualizing blood in the web of the finger, it will be possible to read off anoxemias in degrees of percentage, which will, I think, be a great advantage, because I am certain, as relates to anesthesia in the past, we have not realized that many of the complications and also many of the fatalities related to the anesthetic agent, are due to anoxemia, so I was particularly glad to hear the essayist mention what I think to be very important points in the anesthesia.

We should be, I believe, conscious of the fact that developments in anesthesia have lowered mortality and morbidity, by using these new anesthetic agents such as pentothal, evipal and the new spinal of Lemmon of Philadelphia by the indwelling needle in the spinal canal, which permits all day spinals if you choose, realize this is no longer the field which it was when we had the safe agents, such as the universal agent, ether. It is almost impossible to kill a patient with ether because you get warning. If we are going to see these developments in anesthesia go on as they should, we must realize that they are no longer given as safely as ether. It means that we all, particularly in small communities and in small hospitals, must get behind the idea that we must encourage and permit the development of anesthetists. When we develop more expert anesthetists there will be greater ease for the surgeon and greater safety and security for the patient, and for that reason I am delighted to hear this paper.

Dr. B. L. Shackelford (Atlanta): I want to thank Dr. Rudder for his work on this anesthesia. He has done a wonderful work. I have had the pleasure of using sodium pentothal in a good many instances, perhaps fifty or more, and in some very serious operations. In one of the first hysterectomies I did under pentothal sodium, I feel that if it hadn't been for pentothal the patient would not have survived. That was fourteen months ago. Since then I have used it in numerous surgical procedures. It has always been entirely satisfactory and I think that we owe our gratitude for its development in the Georgia Baptist Hospital to Dr. Rudder's efforts in getting all the instruments that he has devised to make it more efficient and safe for use. I wish to thank him and I would like to see the moving picture.

Dr. Fred F. Rudder (Atlanta): I won't say anything further except to thank the gentlemen who have discussed the paper so nicely. I will pass the gadget around if any of you would like to see it.

Moving picture demonstrating the administration of pentothal was then shown.

A plea to parents to accept their responsibility in preparing their children for happy and useful lives, rather than to shift the entire burden to the school, is made by Haydn S. Pearson, Newton Highlands, Mass., in *Hygeia, The Health Magazine*, for September.

"The best kindergarten in the world is a good home training during the first six years."

THE THERAPY OF MENOMETRORRHAGIA

1. *The Study of the Mechanism of Uterine Bleeding.*
2. *The Study of the Postpartum Period.*

ROBERT B. GREENBLATT, M.D.
Augusta

Introduction: The "three Furies," hypermenorrhea, menorrhagia and metrorrhagia stalk womanhood from puberty to the menopause; striking most frequently late in adolescence or early in the climacteric. Functional uterine bleeding is without doubt the most common of endocrine disorders and its therapy by conservative means in the past has been so inconsistent that surgery or radiation therapy has gained a formidable though unwarranted foothold in treatment. With a better understanding of the mechanism of uterine bleeding and the appropriate methods of employing gynecogenic and androgenic hormones, menometrorrhagia (exclusive of neoplasms and misconceptions) should no longer prove a bane to the physician. Furthermore, the endocrinologic study of the physiologic amenorrhea that attends the post partum period may throw some light on the subject. The employment of blood from lactating amenorrheic women in the treatment of selected cases of menometrorrhagia is offered for your consideration.

The Mechanism of Uterine Bleeding: An intelligent therapeutic approach to the problem of menometrorrhagia will result only when the mechanism of uterine bleeding is fully understood. The artificial induction of pseudo-menstrual bleeding in a castrate female clarifies many controversial points. Chart 1 is self-explanatory. This case study is enlightening for it emphasizes that menstruation is not to be considered a "kind of abortion of the embedded unfertilized ovum" (Powers, 1821). This long accepted tenet has been proved unac-

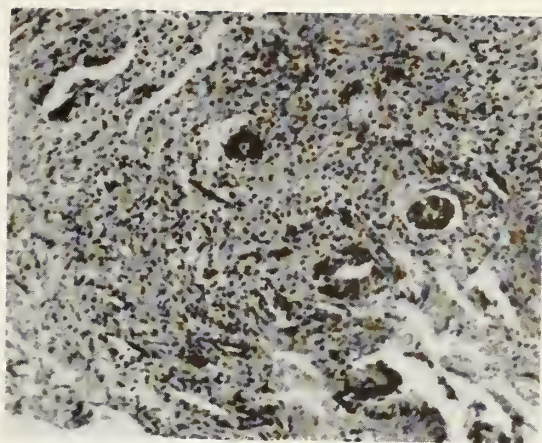


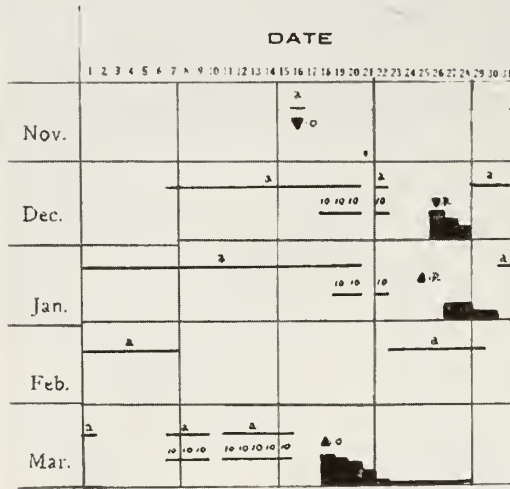
Fig. 1.

ceptable ever since endometrial studies have revealed that anovulatory bleeding is not an uncommon occurrence. The endometrium in a great measure mirrors ovarian activity. The role played by the endometrium is only contributory and not of prime importance for uterine bleeding may occur from a progestational, a hyperplastic, a persistent estrogenic or an atrophic endometrium. In this case, only the minutest amount of scrapings could be obtained after thorough curettage and it is not certain whether the tissue was truly endometrial or whether it was from high in the endocervix. The inability to obtain sufficient endometrium for study within one hour after onset of flow during the March period following massive doses of estrogen and progesterone therapy is sufficient evidence of the minimal role played by the endometrium. Sudden withdrawal of hormone therapy was followed on three occasions by a menstrual flow. This finding corroborates the contention of Corner that menstruation is the result of a sudden deprivation of estrogen or progesterone and that pathologic bleeding is based on the same mechanism of fluctuating levels of ovarian hormones. There is, therefore, no distinction between menstrual bleeding and menometrorrhagia¹. This case study, because of proved insufficiency of the endometrium, further emphasizes and confirms the recent observations of Bartelmez that the myometrium and its vascular supply are dependent upon endocrine control and responsible for uterine bleeding². Bartelmez

From the University of Georgia School of Medicine, Augusta.

Read before the Medical Association of Georgia, Savannah, April 25, 1940.

ARTIFICIAL INDUCTION OF MENSTRUAL BLEEDING IN A CASTRATE FEMALE



LEGENDS FOR ENDOMETRIAL STUDIES

- ▲ = D&C
- ▼ = SUCTION CURETTAGE
- = NO ENDOMETRIUM OBTAINED
- P = MINUTE AMOUNT OF ENDOMETRIUM IN POOR SECRETORY PHASE

LEGENDS FOR MEDICATION

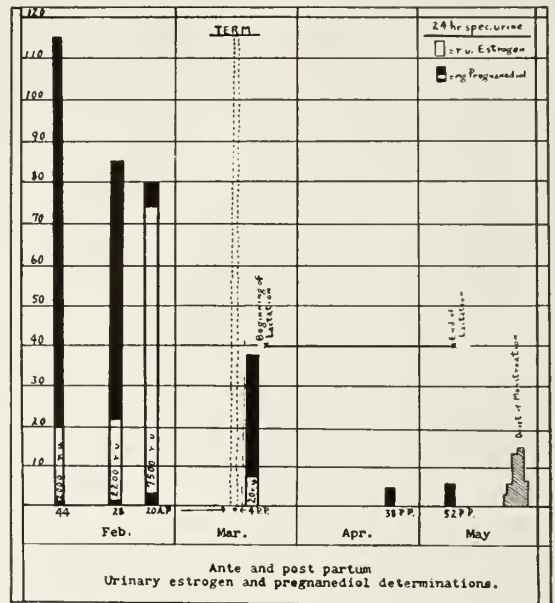
- a = ESTROGEN THERAPY 10-10 MG. LUTOCYCLIN

Chart 1.

believes that the explanation for the reduction or stoppage of the flow of blood to the mucosa must be sought for in the myometrium and not in the endometrium. The perivascular interlacing arrangement of the uterine muscle makes it easy to understand that the degree of contraction and relaxation of these muscle bundles may have much to do with regulating the duration and amount of menstrual bleeding. Excessive uterine bleeding will occur if the proximal (myometrial) portion of the spiral arterioles fails to constrict or be constricted, following the initial extravasation of blood distally. Menstruation is fundamentally a vascular phenomenon in which the endocrines play the underlying role.

The Study of the Parturient Period as a Clue to the Therapy of Menometrorrhagia:

a) The only true physiologic amenorrhea in the child-bearing period is that which occurs during lactation. If the



Ante and post partum
Urinary estrogen and pregnandiol determinations.

Chart 11

Chart 2.

mechanism of physiologic amenorrhea in the human can be sufficiently understood it may prove of value in the treatment of functional uterine hemorrhage by enabling one to produce a temporary amenorrhea when it is desirable. Nathanson and Fevold³ were able to suppress temporarily the estrus cycle in rodents by the injection of urine from lactating amenorrheic women. Lahr and Riddle⁴ injected prolactin into adult non-lactating rats and observed suspension of 2-4 estrus cycles, depending on the size of the dose. Greenblatt and Torpin⁵ were able to cause cessation of excessive uterine bleeding in ambulatory clinic patients by the intramuscular administration of blood from lactating amenorrheic women. Greenblatt, Torpin, Coppedge and Gatewood⁶ were also able to accomplish this in hospitalized patients by using urine from lactating amenorrheic women administered by Murphy drip.

b) An analysis of Chart 2 reveals the ante and post partum urinary levels of estrogen and pregnandiol glucuronide (the end product of progesterone). It will be noted that the urinary estrogen, 20 days ante partum, was 7,500 r.u. and 4 days post partum this level fell to 20 r.u. During the period of lactation urinary estrogens were insufficient for assay. The post partum urinary pregnandiol glucuronide

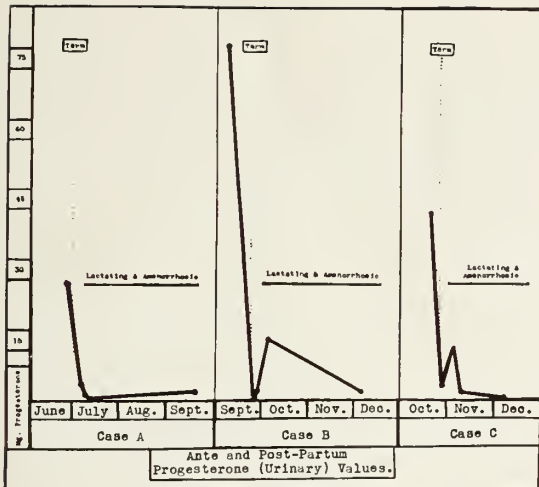


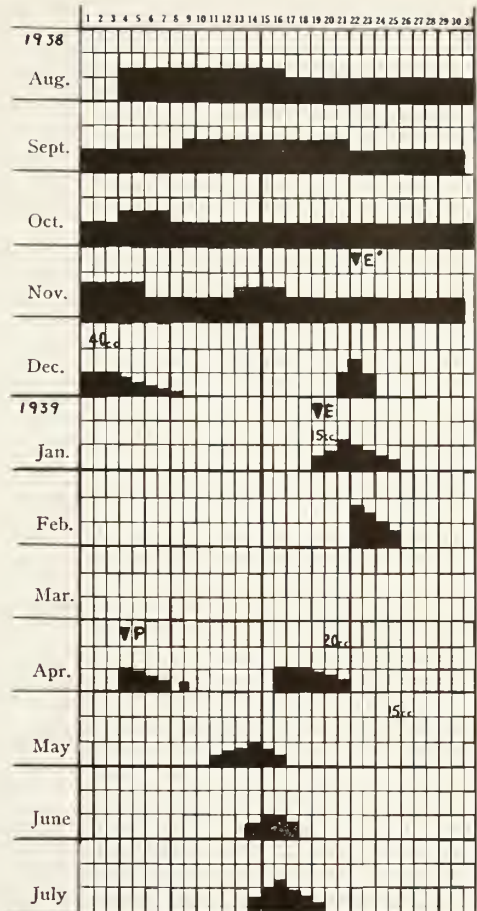
Chart 3.

(progesterone) levels fell sharply soon after parturition (Chart 2 and Chart 3). It is obvious from these studies that the urine of lactating amenorrheic women does not contain sufficient estrogen or progesterone to play a significant role.

c) The serum obtained from 15-20 cc. of blood from lactating women, 10 and 11 days after parturition, was injected into mature female rabbits. Evidence of stimulation of the rabbit ovaries was lacking. The injection of serum obtained from 5-8 cc. of blood, into immature 20 day old female rats failed to produce opening of the vaginal orifice, maturation of the vaginal mucosa or stimulation of the ovaries. Such data would indicate that blood from lactating amenorrheic women has no noticeable gonadotropic activity.

d) Suction curettage was performed on a group of lactating amenorrheic women, at periods of 2 to 14 months after parturition. The histologic examination of the scrapings, when sufficient could be obtained for study, revealed an atrophic type of endometrium (Fig. 1). On the other hand, it has been shown by Lass, Smelzer and Kurzrok⁷ that of the women who menstruate more or less regularly during lactation, 55 per cent of the cycles were anovulatory.

It is obvious from the preceding experimental studies that gonadotropin, estrogen or progesterone cannot be the responsible agents for the anti-menorrhagic qualities of blood from lactating amenorrheic women when employed as intramuscular medica-



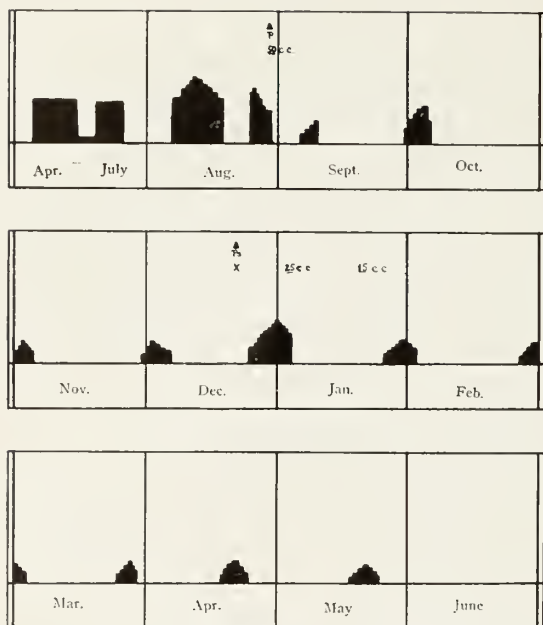
Numerals=Amount of blood from lactating amenorrheic woman administered intramuscularly

Legends for Endometrial Studies
 ▲ =D & C
 ! =Suction Curettage
 E- =hypoestrogenic or atrophic
 E =persistent estrogenic
 E+ =hyperestrogenic or hyperplastic
 Ps. =presecretory
 P =secretory or progestational
 M =mixed or irregularly ripened

Chart 4.

tion in functional uterine bleeding. Moreover, lactogenic factor (prolactin) supposedly is valueless in the treatment of menometrorrhagia according to E. F. Pike of Armour Laboratories⁸. It is probable, therefore, that some "X" factor is present that tends to suppress uterine bleeding by its inhibiting influence on the ovary which in turn is reflected by the myometrium and endometrium. Whole male blood does not possess this factor as may be evidenced from a study of Chart 6.

The Therapy of Menometrorrhagia: The cessation of uterine bleeding following a prolonged bout of menorrhagia has been

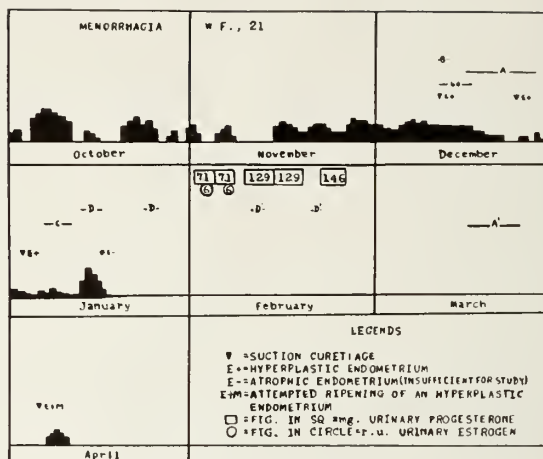


F.B.W.f.22 menorrhagia of 5 months duration.

Chart 5.

successfully accomplished in 17 out of 19 consecutive cases by the use of blood from lactating amenorrheic women, administered intramuscularly in amounts of 15 cc. and repeated until bleeding is arrested. Usually 15 to 75 cc. are required. This is only a stop-gap mechanism and does not insure against recurrence (Chart 4). However, return of cyclic bleeding usually follows and sufficient opportunity is afforded to correct the underlying causes (Chart 5). Thyroid therapy should be administered to patients with a normal or subnormal basal metabolic rate. Correction of body weight in the obese and undernourished, the correction of dietary discrepancies such as low protein intake or vitamin deficiencies should not be overlooked. Foci of infection should receive proper attention and it is well to remember that a chronic cervicitis is frequently a common offender.

The use of blood from lactating amenorrheic women is not always practical but remains a convenient method for those patients who cannot afford expensive endocrine preparations. Massive doses of estrogenic substances (500,000 to 1,000,000 i.u.) injected into the cervix or intramuscularly, according to Karnaky⁹, will



LEGENDS FOR MEDICATION

60-60cc. WHOLE MALE BLOOD INTRAM.
A=2400u. GONADIM IN 3 DAYS
A=1000u. GONADIM IN 6 DAYS
B=gr. 1/2-1 THYROID b.i.d. FOR 1 MONTH
C=40mg. CORPUS LUTEUM IN 4 DAYS
D=100mg. PERANDREN IN 2 DAYS
D=10mg. PERANDREN

Chart 6.

stop a bout of uterine hemorrhage in a few hours. This method, though spectacular, is not without disadvantages. After the arrest of the bleeding massive doses must be kept up for a considerable time to insure that the blood estrogen level remains above the bleeding level. The expense of therapy, the massive doses, the cervical route of administration (Karnaky's method) the possible latent dangers are factors which do not lend themselves for adoption by the general practitioner.

In selected cases of excessive bleeding at the time of menopause, Emmenin (Collip's placental estrogen) has proved adequate in our hands. Testosterone propionate, in small doses (5-10 mg. administered on 15-20-25 days of cycle) has been found satisfactory in the treatment of hypermenorrhea¹⁰. Larger doses (200 mg.) have proved capable in most instances of stopping severe menometrorrhagia within a few days¹¹. Where there are multiple small fibromyomas of the uterus associated with the menorrhagia, testosterone propionate (10-25 mg. at weekly intervals) has been found useful in regulating the menses as well as to control the flooding. The cyclic use of progesterone, where endometrial studies prove an insufficiency or absence of a gestational response, is most valuable in regulating the cycle and controlling the bleeding (Chart 7). The doses recom-

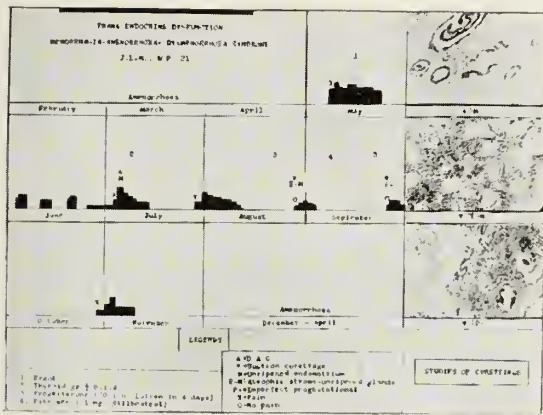


Chart 7.

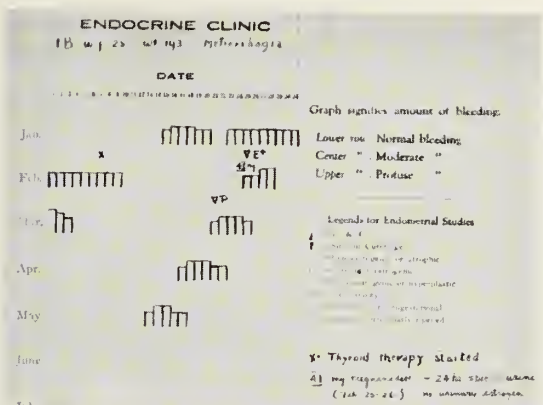


Chart 8.

mended are 5 to 20 mg. administered between the fifteenth and twenty-fifth days of each cycle. Gonadotropins have proved disappointing in the therapy of menorrhagia. Response to therapy may be expected in about 15 per cent of the patients. The newer gonadotropins, (pregnant mares' serum, extracts of the anterior pituitary and the more potent doses of chorionic gonadotropin) may, with further study prove invaluable in correcting the menstrual cycle particularly when used in sequence to a course of estrogens¹². Curettages are often necessary as a means to stop the flooding temporarily but it must be emphasized that although not infrequently good results follow such a procedure, recurrences are often inevitable unless the original cause is corrected. The incidence of spontaneous cures must not be overlooked and must not always be attributed to therapy. Radium and radiation therapy may be used in the precli-

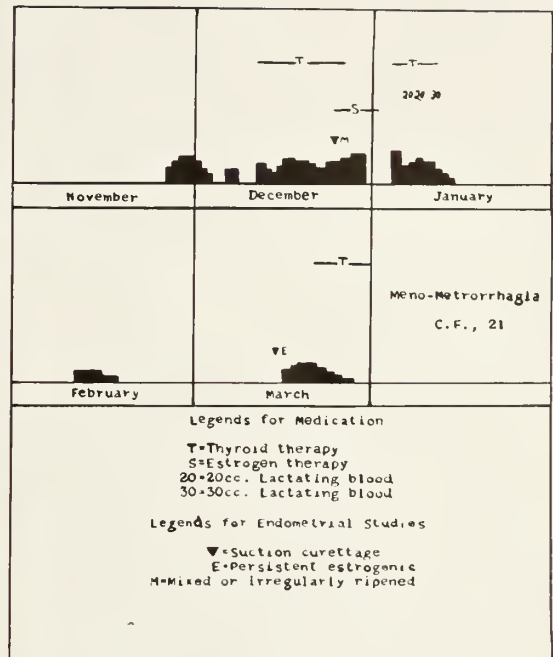


Chart 9.

macteric or in the menopause but such a procedure frequently intensifies the menopausal syndrome that follows. Certainly it should not be used in young women. If all measures fail then hysterectomy is preferable in young women as well as in the woman at the menopause with a chronic cervicitis and possible latent malignancy. And last but not least, simple thyroid therapy has proved curative in so many of our cases that we have adopted a routine to administer a therapeutic trial of thyroid medication before resorting to other measures. In 23 cases in our present series of some 80 patients with menometrorrhagia, this procedure proved corrective (Chart 8). There are, of course, occasions when the menorrhagia is so marked that instant and more heroic measures are needed (Chart 9). When such is the case, if expense is a factor, I recommend for your consideration the employment of blood from lactating amenorrheic women, otherwise a course of estrogens, progesterone or testosterone propionate as the study of the case indicates, will prove sufficient in all but few cases.

Conclusions

1. The therapy of menometrorrhagia should no longer prove a bugbear to the

clinician. Measures to stop excessive uterine bleeding are now well established. During the interval that follows, correction of the original cause of the disease should be undertaken.

2. The mechanism of uterine bleeding is well illustrated by the presentation of a castrate female in whom pseudo-cyclic bleeding could be produced at will and in whom the endometrium proved insufficient. This case emphasizes the role of the myometrium with its spiral arteries in uterine bleeding and the influence of the endocrines.

3. The endocrine study of the physiology of the amenorrhea of the parturient period is presented. If the mechanism of physiologic amenorrhea can be sufficiently understood it may prove of value in the treatment of functional uterine bleeding by producing temporary amenorrhea. Suppression of menometrorrhagia was successfully induced by employing intramuscular injections of blood from lactating amenorrheic women. Normal cyclic bleeding followed this procedure for 2-12 months, affording a sufficient interval in which to correct the underlying causes of functional uterine bleeding.

4. It was found that gonadotropin, progesterone and estrogen are not present in sufficient quantities to account for the anti-menorrhagic properties of blood from lactating amenorrheic women.

5. Other modes of therapy are stressed. Thyroid medication, estrogens, progesterone, testosterone propionate have definite indications in the therapy of menometrorrhagia.

The author acknowledges the aid rendered by his associates, Doctors Richard Torpin, Edgar R. Pund, and W. R. Brown in the execution of this problem. Credit for the preparation of charts and tabulation of statistical data is due Miss Hildegard Lewis; for the preparation of the manuscript to Miss Cecilia O'Connor; and for technical assistance to Mr. Quinby Hair.

Grateful acknowledgment of the co-operation and the generous provision of supplies is made to the following organizations: Ciba Pharmaceutical Company (Perandren, Di-Ovocylin, Lutocylin); Schering Corporation (Oreton, Progynon B, Proluton); Winthrop Chemical Company (Lutren, Diethylstilbestrol); Ayerst McKenna, Harrison and Company (Emmenin).

Sulfapyridine, like sulfanilamide, is of no value in preventing the production of experimental poliomyelitis (infantile paralysis) in *Macacus rhesus* monkeys which have had the virus of the disease injected into their brains. J. A. Toomey, M.D., and W. S. Takacs, Cleveland, have concluded from their experiments, *The Journal of the American Medical Association* for Aug. 19 points out.

FUNCTIONAL HEART DISEASE

J. A. REDFEARN, M.D.

Albany

The symptoms of functional heart disorders appear frequently in general practice and unless correctly interpreted chronic ill health may result. Therefore, every patient is entitled to clinical study so that the functional group may be separated from the organic when possible. No structural damage is found in the former. A normal person with normal heart is unaware of his heart beat and it is unusual to hear a complaint from a patient with gross heart disease of discomfort from this source, even when great pulsations are visible. But nervous patients with normal hearts frequently complain of awareness of the beat and inability to sleep on their left sides, because these sensations keep them awake. Clinically their cardiovascular systems are normal.

Patients with functional heart disorders who are otherwise normal should be encouraged to take unrestricted physical exercise which will prove their hearts sound, otherwise they may worry through lives of inefficiency. Some patients who have functional heart disorders show abnormal physical findings; others do not. In the first group may be mentioned systolic murmurs not accompanied by hypertension, enlargement of the heart, or diastolic murmurs. A systolic murmur where there is history of rheumatism *may not* be functional. Systolic murmurs may be a result of anemia, hyperthyroidism, exercise, hypertension, fever, tachycardia and emotion.

The arrhythmias are functional disturbances, but heart disease may be present. Far too frequently patients with skip beats or tachycardia are given digitalis, and an impression that they have heart disease. Before such conclusions are reached and passed on to the patients they should be given physical, laboratory, x-ray and electrocardiographic examinations. If the heart is not enlarged, the blood pressure is normal and diastolic murmurs are not present, nor-

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mal x-ray and electrocardiogram and negative Kahn, certainly the arrhythmias are not serious.

Extrasystoles are sometimes extremely uncomfortable and unless the condition is explained as being of no consequence, they may repeatedly remind patients of their hearts.

Another group may or may not present irregularities. Dizziness, weakness, palpitation, apical pain and shortness of breath or sighing are the chief complaints. The rate during complaint may be normal. Pain on the left side of the chest may have its origin in a pleurisy, intercostal neuritis or some other non-cardiac ailment. Untrained athletes at the limit of their tolerance may complain of pain which has the distribution of angina pectoris. In young people they are not likely to be cardiac. Precordial pain may be reflex from the gallbladder, duodenal ulcer or an esophagitis. Anxiety neurosis is also a frequent cause of precordial pain.

Neurocirculatory asthenia unfortunately has been termed "soldier's heart." It may be found where there is lack of ability to adjust to the problems presented, whether in or out of the Army. Distress will usually bring out the neurogenics who have family histories of fainters, psychotics, neurasthenics and unstabiles. The heart may show a slight systolic murmur or tachycardia, but the symptoms complained of are all out of proportions to the cardiac findings. The patient may become a "cardiac cripple" if told that heart disease is present.

Perhaps one-third or more individuals who consult physicians for cardiac disorders show no organic lesions. This leads to the conclusion that the cardiac disturbance is a physical expression of an emotional disorder. Most patients show much less worry when told that they have some serious disease of their stomachs, livers, kidneys or lungs than they do when told that their hearts have gone wrong. The news that a child has a murmur is particularly upsetting.

The doctor should never forget that perhaps 80 per cent of children at some time have murmurs and that the vast majority are functional. If a murmur is elicited it

should not be discussed with the child's parents or any patient until the doctor can explain fully its significance, for it is the thing that we do not know about that causes us to worry, as a rule. Uncertainty breeds fear and worry and may cause our patients unnecessary expense. As a rule systolic murmurs mean very little. In children, unless they have had rheumatism and their hearts are enlarged, we should show little concern over murmurs.

CASE HISTORIES

A young married woman referred by her family physician entered my office crying, which prevented her from beginning her story at once. After a few minutes she stated that her married life was very happy and her husband was a good provider. She expressed a keen desire to live, but had reached the conclusion that she could not, owing to the belief that she had heart disease which would quickly prove fatal. An examination brought out no evidence of organic disease so she was assured that her heart was normal. She adjusted quickly and is sailing her ship of life with her hand on its rudder most of the time.

A patient, aged 44, was certain that she had suffered of heart disease for over twenty years, had been confined to bed due to precordial pain and fear of most wholesome foods. Naturally she was thin and weak. When assured that organically her heart was good and that she could digest the foods needed she agreed to try. To her amazement she gained twenty pounds within a few weeks and finally accepted the idea that she had been mistaken in the belief that she had heart disease. The pain disappeared, but tachycardia brought her back for reassurance frequently for two years. During the past four years she has visited my office each six months and generally states that she has become doubtful, but adjusts satisfactorily. These older patients are more difficult to handle.

About a year ago a patient of 50 was referred because of tachycardia with a request from her physician to help find some drug to slow her heart rate. There was a history also of feeling tired all the time, substernal fullness upon exertion, choking sensations, loss of thirty-five pounds within six months, and slight cough. No exophthalmos, tremors or hot, moist skin. The thyroid was slightly enlarged. Repeated metabolisms showed basal metabolic rate plus sixty-five to plus seventy-four. Past history brought out semi-invalidism for eleven years. During the early part of this period she underwent an operation for perineal and cervical repairs and experienced a very stormy and slow recovery which left her about the same as prior to the operation. Some years later she submitted to an appendectomy in the same good hospital in a large city and left it with trained nurses in an ambulance two months later for her home city after she and her husband concluded that if she must die she should be at home with her family and friends. After several more weeks in bed, following a simple appendectomy which healed properly within a

week or two, she was able to sit up and at times go for a ride. Six months ago she entered the same hospital, had a thyroidectomy and is now strong and happy and is attending all social occasions with her friends for the first time in twelve years.

Ten years ago a man of 32 presented himself for examination saying that he feared that he would have to quit a good job that he had worked up to because of nervousness, weakness and very rapid heart upon slight exertion and that he was running a pulse rate of 120 to 140 all the time. Someone had prescribed digitalis and told him there was nothing seriously wrong, but to be careful and take little exercise. The fat was in the fire. Neurocirculatory asthenia was his problem. Drugs were discontinued and he was advised to exercise as much as he desired to and eat, for he was underweight. He is now doing well and is thoroughly adjusted though rapid pulse is generally present. He occasionally mentions it as an amusing incident, whereas ten years ago it seemed unsurmountable.

Summary

Functional disturbances may occur as murmurs, arrhythmias, tachycardias, etc., anyone of which, if not properly understood, may produce fears, worries, expense and unhappiness.

REFERENCES

Tice Service, White, Levine, Cabot and Adams, Meakins, Osler.

DISCUSSION ON PAPER OF DR. J. A. REDFEARN

Dr. H. C. Atkinson (Macon): Dr. Redfearn has given us a very helpful paper on a subject on which discussion is much easier than being helpful.

I just want to attempt to emphasize two points in his speech. The first is that organic heart disease and functional heart disease are not at all mutually incompatible and we have all degrees of combinations of these two conditions. In a large proportion of functional heart conditions we can demonstrate, also, organic disease. From the standpoint of therapy, these combinations are probably more easily treated than are those patients in which the organic element is the large part of the trouble.

We may say we have three groups of functional heart disease. One in which there is no organic heart disease, one in which there is minor organic heart disease and one in which there is major organic heart disease. Even in severe and major organic heart disease we frequently find a functional element. The functional element is difficult to handle but if properly handled it will probably give the best therapeutic results.

The second point is, I think all of us dealing with patients of this type should fully differentiate between the neurotic individual (the individual with neurosis or functional heart disease) and the malingerer who is intentionally and consciously trying to simulate some diseases which he knows he does not have. This malingering is probably a disease in itself. It is different from functional heart disease, and we should clearly differentiate them in our thinking. If we as doctors could un-

derstand the underlying principles of functional heart diseases as well as other functional diseases, and would go into the personal problems as well as the physical elements, we would be in a position to better administer that measure and treatment which Houston referred to a few years ago in an interesting address before the American College of Physicians, "the physician himself as a therapeutic agent."

Dr. John W. Brittingham (Augusta): In looking over this program I am convinced that Dr. Redfearn has been assigned the most difficult topic on the list. All heart diseases are functional disorders, more or less, but we must remember that after all there is no such entity as heart disease per se. It is nothing but a manifestation of some other disease whether it be functional or organic.

Dr. Redfearn has emphasized functional disorders in which there is no organic pathology. There are several of these which I would like to mention in addition to those to which he has referred, such as the heart findings in severe anemias and severe Vitamin B deficiencies. We have seen general anasarca and the typical picture of cardiac failure in the latter. Dr. Redfearn is perhaps a bit conservative in his statement about systolic murmurs, because such murmurs with a previous history of rheumatic fever should always be considered evidence of organic disease.

In regard to arrhythmias, we doctors are frequently guilty of creating them by the over use of digitalis. In hospital and clinic practice about half of the ectopic beats encountered are due to digitalis. We often see various stages of A-V block, and occasionally bundle branch block due to digitalis.

In regard to cardiac pain, we are often misled as to diagnosis, but it is usually functional if the patient localizes it with his finger.

Regardless of cardiograms or roentgenograms, the functional capacity of the heart is the most important factor of all. In other words, what can the patient do without becoming conscious of his heart?

An examination, the value of which I would like to emphasize, is fluoroscopy of the heart and aorta. The presence of cardiac pain and increased tortuosity or widening of the aorta, particularly if the patient is in his forties or early fifties is always suspicious of the presence of similar changes in the coronary arteries. This often leads to a state of coronary insufficiency and stamps the patient as a candidate for coronary occlusion.

With the apparent increase in the prevalence of heart disease Dr. Redfearn's paper has been very timely indeed and I congratulate him on the manner in which he has presented it.

Dr. J. A. Redfearn (Albany): I want to thank Dr. Atkinson and Dr. Brittingham for their discussions and take just a moment to say that whether we are specializing in the treatment of dandruff or ingrowing toe nails or any point in between those two extremes, we must remember about the functional disturbances, whether of the heart or any other organ in the body. Half the people have some such disturbances and if we are not mindful of this, we may become impatient and dismiss some individuals as neurotics.

THERAPY OF THIRD, FOURTH AND FIFTH VENEREAL DISEASES

MARION T. BENSON, JR., M.D.

J. A. HENRY, M.D.

Atlanta

Chancroid, granuloma venereum and lymphogranuloma venereum are no longer rare diseases: they can cause a great disability, particularly in women. This is a report of negro patients observed on the Gynecological Service, Emory University Division of Grady Hospital. All were female patients referred from the regular Gynecological clinic. This report consists of 142 cases observed for a period divided slightly over three years as follows:

Chancroid — 27 cases.

Granuloma venereum — 8 cases.

Lymphogranuloma venereum — 107 cases.

Approximately as many cases were discarded from this report because they were complicated by early syphilis, or we were unable to make definite diagnoses or they were entirely different and unrelated diseases, such as syphilis, gonorrhea, condylomata accuminata, mycotic infections, etc. A definite diagnostic procedure was carried out. It consisted of a darkfield and serologic test for syphilis, Kahn and Wassermann tests being run simultaneously, a smear from the lesion stained with Gram stain and examined by the clinic technician for Ducrey bacillus and Donovan bodies, intradermal Frei and Ducrey bacillary antigen tests done at the same time on the flexor surface of opposite forearm. Biopsies are important and were taken fairly frequently but were not routine.

We do not believe any genital lesion should receive any form of therapy until thorough recourse has been had to the laboratory and a definite diagnosis made. It has been proved that the Frei test is accurate and of great value in the diagnosis. The first Frei antigen used was made from pus aspirated from buboes of some of our patients and some obtained from Augusta.

Later we found the commercial antigen prepared from the mouse brain more satisfactory. It takes about three weeks for the allergic phenomena of the Ducrey infection to become positive and as patients infected with chancroid often present themselves early, the skin test may be negative; nevertheless it has proved reliable in our hands as only 4 of our patients with a positive smear had a negative skin test and 3 patients with positive skin test had a negative smear. All skin reactions were read by one of us in 48 hours. Biopsy was taken on patients with negative skin tests or where there was a possibility of malignancy or if the lesion appeared characteristic of granuloma venereum. Biopsy was of more value in demonstrating Donovan bodies than the smear, as only two out of the eight cases revealed Donovan bodies on smears, while all did so on biopsy. Not many cases were investigated for fusospirochetosis or the Vincent's organism although Torpin, Greenblatt et al have demonstrated the frequency of their occurrence in these lesions.

CHANCROID

This disease is an acute localized ulcerative process due to a specific organism, the Ducrey bacillus. It is transmitted by sexual relations but is a disease of uncleanness and poor hygiene. It is characterized by single or multiple, painful excavated ulcers with a rather foul base. These are usually located at the fourchette or on the labia and are accompanied by an inguinal adenitis that often suppurates. The incubation period is 3 to 7 days.

We had 27 cases diagnosed as chancroidal infection plus 11 cases of lymphopathia venereum, and 1 case granuloma venereum complicated by Ducrey infection. This comparatively small number of cases does not indicate the extent of the disease as probably many attended the surgical or emergency clinic for relief of a suppurative buboe and some cases heal spontaneously fairly soon. Of these 27 cases, 23 had a positive skin test and 24 a positive smear. The lesion had been present in only six cases longer than four weeks, so most patients come fairly soon. Most

From Emory University Division of Grady Hospital, Atlanta.

Read before the Medical Association of Georgia, Savannah, April 26, 1940.

of the patients were in the third decade, one over 40 and 6 under 20. The lesion was located on the fourchette or labia in 26 patients and at the urethral meatus in 1. Only 4 patients had a suppurative adenitis and none developed it after treatment was started. Three patients had a positive serologic test for syphilis. One patient was pregnant. There was a follow-up of 2 weeks to 6 months on 15 patients.

THERAPY

In the past chancroid was treated by local applications of various kinds. Torpin and Dienst¹ in 1938 reported the subcutaneous injection of the Ducrey bacillary antigen plus hygienic measures to the ulcerative area, and neoarsphenamine, cod liver oil, glycerine mixture for the Vincent's organism. Fields and Weinstein² reported the use of sulfanilamide as dusting powder to the lesion four times daily with satisfactory results. Kornblith^{3,4} reports a fairly large series of cases treated with sulfanilamide by mouth. All cases healed in 2 weeks, average dose of sulfanilamide 600 to 700 grains, they received 80 grains a day for 5 days then 40 grains a day.

Of our patients, 23 received sulfanilamide by mouth and 4 were treated by hygienic measure alone. Two are under treatment at present. Twenty-five healed satisfactorily. There was one recurrence or reinfection. Most patients were given 30 grains of sulfanilamide daily, a few received as much as 40 grains daily. The lesion had completely healed in 7 patients in one week. None had to take the drug longer than 3 weeks. Average duration of treatment was 1½ weeks. The buboes were not incised but simply aspirated. All patients were quickly relieved of pain from the adenitis.

GRANULOMA VENEREUM

This is an ulcerative disease involving the genitalia; it may extend to involve the pubis, inguinal region, buttocks and anus. It is probably a venereal disease related to uncleanliness and is most common in the Negro race. The Donovan body is the etiologic agent. The incubation period is 1 to 3 weeks and the first lesion is a small painless papule. It rapidly forms a raised

granular ulcer with sharp edges. Granuloma venereum is considered a local disease of the skin. Greenblatt, Dienst, Pund and Torpin⁵ state that the so-called pseudo-bubo of granuloma venereum is not adenitis per se but subcutaneous granulomatous tissue that will abscess or break through the skin. However, in two patients, they demonstrated Donovan bodies in the lymph nodes and they advanced the hypothesis that Donovan bodies travel by the lymph stream and when they reach a lymph node they cause a temporary mild lymphadenitis before they reach the skin and form the typical granular ulcer. Pund and Greenblatt⁶ have described a case of granuloma venereum of the cervix and Pund and Gotcher⁷ a case involving the uterus, tubes and ovaries.

In this series there were only 8 cases of proven granuloma venereum, all diagnosed by biopsy. This seems a rather small number. It is possible that some of the lymphopathia venereum cases may also have had a granuloma venereum infection that was not diagnosed. The inguinal region was involved in four of the cases and 5 of the patients had the disease longer than a month. None were over 30 years of age. Antimony has been considered almost specific for this disease, either in the form of 1 per cent antimony and potassium tartrate to be given intravenously or as faudin given intramuscularly. We have used faudin on all cases. Two patients healed readily with 9 and 13 injections respectively. Two patients were improving rapidly but did not complete treatment. Four patients are under treatment at present. Three of these have received between 20 and 30 injections and while there has been very definite improvement, the ulceration has not entirely healed. One of these patients has a fusospirochetosis and it is likely the others have also. The local treatment advocated by the Augusta workers would probably greatly aid these patients.

This is too small a series to draw any conclusions, yet there are enough reports in the literature to show the value of antimony in the therapy of this disease. However, local treatment will be necessary if secondary Vincent's infection is present.

LYMPHOPATHIA VENEREUM

This is distinctly a venereal disease due to a filtrable virus. The disease is fairly wide spread but is more common and possibly the incidence is increasing. Gray, Hunt, Wheeler, Blacke of St. Louis report 34 per cent positive whites and 40 per cent positive Negroes in a large series. White prostitutes 4.4 per cent positive, Negro prostitutes 47.7 per cent. No more than 40 per cent of these were active cases. Clyne found it accounted for 4.1 per cent of venereal admissions at Ft. Sam Houston Hospital, and there are other reports of its frequency in Cleveland and San Francisco.

Lymphopathia venereum is a systemic disease involving mainly the lymph channels. Stokes, Beerman and Ingraham⁸ note that the non-venereal infections occur among physicians and research workers. The tongue and buccal lesions are ascribed to perversions.

The primary lesion appears within 2 and 5 days after infection as a small herpetiform vesicle or erosion. Lesion is asymptomatic and heals spontaneously. In 10 days to 3 weeks the regional lymph nodes of the groin or rectum are involved. Gutman⁹ reports any of the following constitutional symptoms may develop, low irregular fever malaise, lassitude, headaches, meningeal irritation, night sweats, chills, vertigo, weight loss, headache, nausea, myalgia arthralgia, splenomegaly, stomatitis leukocytosis, increased sedimentation rate hyperproteinemia, decreased blood lipids. von Haam and D'Aunoy¹⁰ have demonstrated the virus in spinal fluid of infected patients. Wright and Logan¹¹ report 3 cases with apparent involvement of the osseous system.

The inguinal bubo is the principal lesion in the male. D'Aunoy and von Hamm¹² report 278 cases of bubo in the male to 31 in the female. The disappearance of the bubo is usually the end of the disease in the male and usually occurs within 2 years. In the female the disease is more chronic and often produces distressing complications — proctitis and rectal stricture, esthiomene, and chronic ulceration. The

rectal infection is due in the female to drainage from lesions on the fourchette or posterior vaginal wall which has a lymphatic connection with the rectum. The esthiomene and chronic ulcerations of labia are apparently due to lymphatic blockage.

The diagnosis is made by the allergic reaction from intradermal injection of a pus antigen or an emulsion of infected mouse brain, 0.1 cc. being used.

The therapy is varied and unsatisfactory, however, three procedures stand out in the current literature, use of Frei antigen, sulfanilamide, and fuadin.

Wein¹³ advocates 0.1 cc. Frei antigen intradermally at 3 to 5 day intervals and states that constant treatment is required for many months. Kornblith¹⁴ reports 300 cases and found 33 per cent heal spontaneously, mostly the mild glandular cases. Any method of local treatment healed 46 per cent over a period of 7 to 8 months. Intravenous Frei antigen gave good results in 82 per cent of cases, best results in the glandular. In the cases with chronic lesions such as are most of ours he got good results in 60 per cent. He gave 0.3 cc. of Frei antigen 3 times a week, a majority of patients had severe reactions. Torpin, Greenblatt, Pund and Sanderson¹⁵ analyzed 145 cases and feel that sulfanilamide is the most valuable remedy, particularly in rectal cases and draining abscesses. They also recommend the treatment of complicating fusospirochetosis with the neoarsphenamine—cod liver oil—glycerine mixture. Shaffer and Arnold treated 22 patients with sulfanilamide with 4 complete cures and 11 improved. Coutts recommends fuadin and several writers in foreign literature advocate fuadin and prontosil. Gray¹⁶ states that in no known virus disease is there a specific drug and suggests the transfer of passive immunity by injection serum from patients with healed lesions.

We are reporting 107 cases. Most of these women were in the third and fourth decade, although 2 were over 50, one of which was 61. Only 15 cases gave a history of disease being of less than a month's duration. The lesions were located as follows:

Vulva	70
Rectal	28
Urethra	14

Cervix 4

Six of the rectal cases also had lesions on the vulva and 3 of the cervix involved the rectum. Eleven patients had a suppurative inguinal adenitis. A positive serologic test for syphilis occurred 31 times and 11 patients also had a chancroidal infection. All cases with rectal lesions developed a stricture, other complications were esthiomene 16 cases, vesicovaginal fistula 4; rectovaginal fistula 3; vaginal stricture 1; third degree perineal laceration 1; incontinence of bladder 2; pregnancy 4; severe rectal hemorrhage 1.

THERAPY—These patients could only be seen once a week in a large busy clinic with the entire time of the house staff occupied. We first tried Frei antigen intradermally but it was expensive and there was little improvement following only weekly injections. So as there were some favorable reports with antimony in the form fuadin, we tried that with better results. We do not know why antimony should be of value in two unrelated diseases.

Of these 107 patients 58 received fuadin alone, 23 fuadin and sulfanilamide and 21 uncooperative and did not return for sufficient treatment. Of the 86 patients who received adequate treatment, 59 were completely healed, 23 definitely improved, 4 showed no improvement. We classified patients as healed when ulceration or acute proctitis subsided, evidenced by a cessation of pain and the passage of blood or pus disappeared. Of the 23 patients classified as improved, 15 are still under treatment. Thus of the 86 patients adequately treated 83 per cent healed, 12 per cent improved and 5.6 per cent showed no improvement or became worse. These last were not fully cooperative and it seems that if they could have been hospitalized and received intensive therapy they also would have improved. Patients received 5 cc. of fuadin intramuscularly weekly, the fewest injections required to promote healing was 3, the greatest number 40, the average 15.2. Sulfanilamide was given from 2 to 9 weeks, 30 grains daily, average 3.9 weeks. Sulfanilamide was found to be of most value in proctitis and draining buboes and sinuses. It seemed to have little effect on the vulval ulcerations. It is supposed that sulfanilamide combated secondary infection probably from the colon organism.

No local treatment other than general hygienic measures, plus potassium permanganate Sitz baths for patients with offensive discharges, were instituted in order to judge the value of this form of therapy. Five patients were given roentgen-ray therapy with no demonstrable improvement. If a bubo develops aspiration is preferred to incision. Surgical removal is treatment of esthiomene but we believe operation should be delayed if possible until any chronic ulcerations have healed. Rectal cases received digital dilatation, only 2 cases required colostomy. There was a follow-up on 36 patients of from one month to one year. Two patients developed reaction to fuadin; after 20 to 30 injections, one a dermatitis and one severe abdominal pain, nausea, chills and fever.

Conclusions

1. Sulfanilamide and aspiration of bubo is a satisfactory treatment of chancroid.

Thirty grains daily for 2 weeks is usually an adequate dosage.

2. Intravenous or intramuscular injections of antimony are most satisfactory for granuloma venereum plus local therapy for fusospirochetosis if present.
3. The treatment of lymphogranuloma venereum is unsatisfactory. In our hands fuadin alone or with sulfanilamide gives fair results, if continued long enough. Surgery is recommended for esthiomene and dilatation for rectal stricture.

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BIBLIOGRAPHY

1. Torpin, R., and Dienst, R. B.: Chancroidal Infection in Female, *Am. J. Syph. Gonorr. & Ven. Dis.* 22:634-637 (Sept.) 1938.
2. Fields, R. J., and Weinstein, J. J.: Use of Sulfanilamide Powder Locally in Treatment of Chancroid, *Urol. & Cutan. Rev.* 42:880-881 (Dec.) 1938.
3. Kornblith, B. A.; Jacoby, A., and Wishengrad, M.: Treatment of Chancroid with Sulfanilamide, *J.A.M.A.* 111:523 (Aug. 6) 1938.
4. Kornblith, B. A.; Jacoby, A., and Wishengrad, M.: Sulfanilamide in Treatment of Chancroid, *New York State J. Med.* 39:364-368 (Feb. 15) 1939.
5. Greenblatt, R. B.; Dienst, R. B.; Pund, E. R., and Torpin, R.: Experimental and Clinical Granuloma Inguinale, *J.A.M.A.* 113:1109-1116 (Sept. 16) 1939.
6. Pund, E. R., and Greenblatt, R. B.: Granuloma Venereum of Cervix Uteri (Granuloma Inguinale) Simulating Carcinoma, *J.A.M.A.* 108:1401-1402 (April 24) 1937.
7. Pund, E. R., and Gotcher, V. A.: Granuloma Venereum (Granuloma Inguinale) of Uterus, Tubes and Ovaries, *Surgery* 3:34-40 (Jan.) 1938.
8. Beerman, J.; Ingraham, N. R., Jr., and Stokes, J. H.: Lymphogranuloma Venereum, *Am. J. M. Sc.* 197:575-587 (April) 1939.
9. Gutman, A. B.: Systemic Manifestations of Lymphogranuloma Venereum, with Illustrative Case Reports, *New York State J. Med.* 39:1420-1431 (July 15) 1939.
10. von Haam, E., and D'Aunoy, R.: Infectivity of Spinal Fluid in Lymphogranuloma Inguinale, *J.A.M.A.* 106:1642-1643 (May 9) 1936.
11. Wright, L. T., and Logan, A.: Osseous Changes Associated with Lymphogranuloma Venereum, *Arch. Surg.* 39:108-121 (July) 1939.
12. D'Aunoy, R., and von Haam, E.: Venereal Lymphogranuloma, *Arch. Path.* 27:1032-1082 (June) 1939.
13. Wien, M. S.: Treatment of Lymphogranuloma Inguinale, *M. Clin. North America* 23:227-230 (Jan.) 1939.
14. Kornblith, B. A.: Lymphogranuloma Venereum: Treatment of 300 Cases, with Special Reference to Use of Frei antigen intravenously, *Am. J. M. Sc.* 198:231-246 (Aug.) 1939.
15. Torpin, R.; Greenblatt, R. B.; Pund, E. R., and Sanderson, E. S.: Lymphogranuloma Venereum in Female: Clinical Study of 96 Consecutive Cases, *Am. J. Surg.* 43:688-694 (March) 1939.
16. Gray, L. A.: Lymphopathia Venereum—"Lymphogranuloma Inguinale"—of Female Urethra, *Surg., Gynec. & Obst.* 62:745-752 (April) 1936.

CHILDREN'S FOOD DISLIKES

"There is no one food, with the possible exception of milk, which is absolutely essential in the child's diet," William I. Fishbein, M.D., Chicago, declares in the October issue of *Hygeia, The Health Magazine*.

It is not necessary, he believes, to force a child to take any food which he dislikes, inasmuch as satisfactory substitutes are available. As the child grows older food dislikes often disappear, although many persons carry some of them over into adult life with no harm to themselves.

CARCINOMA OF THE PROSTATE

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It is our intention to offer a practical discussion of cancer of the prostate, presenting some conclusions which are based upon what seems to us to be adequate experience with the disease—experience derived from the expenditure over many years of conscientious efforts in treatment and diagnosis and under conditions where we have had facilities which have been almost, if not as good, as those at any clinic. This is not said boastfully but simply as evidence so that you may better judge the value of our conclusions.

This experience has been obtained not only with private patients but in the urologic clinic at Emory University teaching hospital and from thirteen years' operation of the urologic department of the Steiner Clinic, which is one of the few special cancer hospitals in the United States and in which there is almost every desirable facility for the diagnosis and treatment of cancer. Taking advantage of these facilities we have tried all of the methods of treatment most likely to succeed which have been advanced, namely, deep x-ray therapy; radium therapy by gold seed, rectal, and urethral application, and radium emanation in perineal needles; and also, such palliative operative procedures as suprapubic cystotomy, transurethral resection, and partial prostatectomy.

In the past three years we have twice gone pretty thoroughly through the literature on carcinoma of the prostate¹, and recently we have made a careful analysis of the records of 100 Steiner Clinic and 50 private patients, selecting records complete enough to make the study worth while.

From this analysis, and these studies of the literature, we have concluded that on the whole, *as far as the control and cure* of cancer of the prostate is concerned, we are about where we were thirty or forty years

ago, namely: (1) The diagnosis of cancer is nearly always first made after the growth has become so extensive that there is little or no hope of even controlling it much less curing it. (2) Most patients die within two years after the cancer is discovered no matter what treatment they receive. (3) There exists no treatment or combination of treatments by which even moderately extensive cancer (we do not include the small growths) can be controlled except in a very small percentage of cases, and only where extraordinary facilities for treating cancer are available. (4) Growths, already extensive, are found at least not rarely in men young enough to have a reasonable expectancy of life of ten or fifteen years.

It is true, of course, that by the more modern methods we sometimes make patients more comfortable and in some increase the length of life—the pains may be relieved with x-ray and radium therapy, and the urinary obstruction relieved or lessened by cystotomy and by transurethral resection, and in a few patients the growth may be inhibited so that it is confined to the prostate for a longer period so that the patient lives a few months or a year or two more than he would have otherwise. The only procedure by which patients have been cured, which seems to be worth mentioning, is radical prostatectomy as proposed by Dr. Hugh Young. He and Dr. George Smith² of Boston are the only ones reporting a fairly large series of cases of total prostatectomy. Barringer³ (1936) with all the facilities existing at the Memorial Hospital in New York at his disposal, reports only 20 cases (5.7 per cent) out of 322 where the growth has been controlled by radium and x-ray longer than five years, and only four longer than ten years, and his is a remarkable record when compared with other reported results of such treatments.

We have learned in the past few years that cancer of the prostate occurred far more frequently than we thought. More careful microscopic study of prostates removed at prostatectomy and of specimens obtained at routine autopsy on men over forty has disclosed that carcinoma exists

¹From the Urological Department of Steiner Clinic, Atlanta.

²Read before the Medical Association of Georgia, Savannah, April 24, 1940.

in 14 to 16 per cent (Moore⁴ and Rich⁵) of the cases. In many instances, even in the prostatectomy specimens, there existed no suspicion that cancer was present. Naturally, this does not mean that cancer of the prostate is present in 14 to 16 per cent of men over forty, but it does mean that cancer of the prostate exists far more frequently than we had suspected.

There can be little doubt but that we have reached a point where something more effective must be done by the medical profession in the treatment of cancer of the prostate, and the only hope of obtaining successful results is by the cancer being discovered when it is still small enough to be confined to the prostate. Fortunately, about 75 per cent of the growths begin in the part of the prostate lying immediately beneath the rectum where even small areas of induration can be discovered by palpation.

There have been so few patients having small growths, who have been seen in the past by the urologic surgeon that very little has been written or done about them. In our own experience with the small growths we have found that the diagnosis of the nature of a small area of induration is difficult and often impossible unless the prostate is exposed by a perineal incision.

In about 250 patients with carcinoma of the prostate we have seen five in whom the growth was as small as one centimeter in diameter. Three of these were treated by exposing the prostate through a perineal incision, making a biopsy, and implanting radium emanation seed in and about the growth. One of these patients is alive now after ten years, but has metastases to the spine and is in bad condition from the slowly recurring growth. One patient died about three years later of heart disease (with no sign of recurrence), and we lost contact with the other one after he was recurrence free for two years. In one of these patients we observed the development of the cancer from a very small indurated area, perhaps 0.5 cm. in diameter, into a growth involving most of one side of a fairly small gland. While the growth was small we tried three times to get tissue through a needle by aspiration but without success; but the slow growing, irregular extension of the growth during several years had been characteristic enough for a certain diagnosis of cancer to be made. He will submit to no treatment except roentgentherapy. In still another of these patients, a physician who was sent to me by Dr. J. E. Paullin, the growth was about 0.5 cm. in diameter. Here also we failed twice to get tissue with aspiration biopsy

and we then tried to get him to go to New York to see if Dr. Barringer could have better success with aspiration biopsy. Instead, about five months after we first saw him, he went to another urologist who performed a transurethral resection telling him that he could remove the cancer by cutting it out in that way. Naturally, the operation was unsuccessful. About eight months after we saw him he went to New York and a biopsy then showed that the enlarged growth was cancer. He was treated there at that time by radium needles passed through the perineum and given another similar treatment four months later. As a result of the radium reaction he suffered greatly and was told by the urologist who did the transurethral resection that another treatment through the urethra would relieve him. After this was done he had complete incontinence of urine but obtained no relief from his discomforts. Subsequent suprapubic cystotomy has given him some relief.

These experiences convince us that biopsy by perineal exposure of the prostate is not difficult, is certain, and offers an opportunity to treat the growth immediately by some radical procedure such as interstitial radiation with gold seed or radical prostatectomy.

Biopsy by aspiration through a needle passed into the perineum is difficult when the palpable area is hard and very small because it is difficult to make the needle enter the small nodule, and the firm or hard tissue is resistant to aspiration even into a fairly large needle, and the larger the needle the harder it is to get it to enter the growth. Barringer pointed out to us the fact that aspiration biopsy on the fairly large growths is often unsuccessful if the tissue is firm and therefore drawn into the needle with difficulty.

Astraldi reports 100 successful and uncomplicated biopsies performed through the rectum. If transrectal biopsy can be shown to be reasonably free from complications, it may prove far more effective than transperineal aspiration biopsy. So far there is not available adequate proof of its safety and superiority to other methods.

The actual facts are then that we have not developed a technic for performing a biopsy to determine the nature of a small area of induration lying in the postspermatogenic portion of the prostate except by exposure of the gland by perineal incision. While perineal exposure is a fairly simple procedure and in many instances absolutely justified some simpler method, such as

obtaining tissue through a needle or trochar will prove enormously more popular since it will be so much easier to persuade patients to submit to such a procedure than to the perineal exposure. Aspiration through a needle passed through the rectum or the perineum may ultimately be shown to be all that is needed in the rarer types of soft growths, but for the small hard growths some other method must, we feel sure, be perfected unless perineal exposure is to be employed. Lowsley and others have devised special biopsy instruments, none of which seem to us entirely adequate unless the growth be larger than one or two centimeters in diameter. There can be but little doubt that a suitable instrument will be devised as soon as the demand for its employment becomes sufficiently widespread.

There is much to be said in favor of the perineal exposure when an area of induration is found which is very suggestive of carcinoma, but the nature of which cannot be determined by needle biopsy. This is especially so if the patient is still fairly young because the cancers of the prostate occurring in the younger men have been shown to be highly malignant and to extend beyond the prostate very early. Delay in making a diagnosis and instituting treatment can only result in an early death of the patient.

When everything is considered, radical prostatectomy offers greater advantages and greater hopes of cure for these patients than we have been willing to accept in the past. From available evidence we believed that even the growths about two centimeters in diameter (the growths designated in the literature as small growths) had already extended beyond the limits of the prostate and could not, therefore, be completely removed by operation. It would seem, however, from some of the more recent work that although the commonly seen, smaller growths extend rapidly by way of the perineural lymphatics so that a larger portion of the prostate becomes involved than one would suspect from the size of the growth, the cancer cells are often confined to the prostate and its capsule. The character of

the growth has, of course, a great deal to do with the rapidity of extension and metastasis, and the very malignant growths evidently extend beyond the prostate very early. Most prostatic cancers are fairly slow growing and there can be little doubt but that with the better technic now developed for radical prostatectomy that a great many cures can be obtained if the growths can only be discovered when they are small.

Young⁶ reports that a conservative estimate of the results of radical prostatectomy shows over 50 per cent of the patients free of recurrences, and thinks that if the growths are small at the time of operation that the cures would be 70 per cent or more. In 61 cases he reports 6 deaths or 11 per cent, and in the last 37 cases there has been only one death and 26 consecutive cases without a death.

Unless we are greatly mistaken, radical prostatectomy as a cure for carcinoma of the prostate will become the one accepted method for treating the patients with small growths. As urologists develop better facilities for making biopsies on small areas of induration in the prostate, the medical profession as a whole will take a greater interest in discovering changes which may be cancerous and as a result, radical prostatectomy will be far more widely employed.

In the meantime we have the problem of doing everything within reason for the advanced cases which come to us now. Of course, we shall always see advanced cases but what has been done to bring early cases of cancer of the breast and cancer of the cervix to the doctor makes us very hopeful concerning cancer of the prostate.

Many patients have the prostatic cancer so far advanced that there is nothing to be done except try to make them as comfortable as possible with narcotics and catheterization or suprapubic cystotomy. But there are a certain number, not many it is true, for whom a great deal can be done to make them more comfortable and lengthen the period they may live. Of these, there are a few with growths which can be controlled in varying degrees by radio-

therapy — radium and x-ray. These are naturally the more radiosensitive cancers which have not become too extensive, and their radiosensitivity can often be determined by aspiration biopsy since they are more easily aspirated. To obtain the best possible results from x-ray therapy, x-ray radiation must be supplemented by the use of radium, and the method of using it must be selected to suit the case. Barringer thinks that the best results are obtained usually by placing gold seed in that part of the growth which lies about the bladder neck (through a suprapubic opening) and then treating the part nearest the rectum by radium in needles inserted through the perineum. There can be little doubt that interstitial radiation is on the whole more satisfactory in our experience than the surface applications by rectum, urethra, and transurethral to the bladder neck. We have found that in rectal applications it is extremely difficult to fix the instrument holding the radium in such a fashion that it will not move during the application. Re-examination at the end of the selected time often discloses the part of the instrument holding the radium to be a centimeter or more from the place where it was left. This means that to insure the avoidance of overlapping applications, and consequent irritation of the mucosa, they must be made on fairly widely separated areas. Interstitial radiation may, of course, very well result in sloughing of the prostate, and it seems better to employ a greater number of seed or needles containing small doses, rather than fewer of greater strength.

It is easy to determine that some patients do not need much except palliative treatment, but in others it is very difficult to decide just how much should be attempted. Unfortunately, in private patients we must frequently consider the financial condition of the patient and of his family in deciding what treatment to advise—the cost of x-ray therapy, radium, and hospitalization so frequently adds up to more than they can pay, and the small chance of getting anything more than temporary improvement, even if everything is done, must be remembered.

A large percentage of patients require

some relief from urinary obstruction. In some of the patients transurethral resection gives adequate and sufficiently long enduring relief to make it the desirable procedure. In a good many others, the results from transurethral resection are not good or only temporary, and this is not only the case in our own patients but also in those patients of other physicians who have come under our observation after the transurethral operation has been performed. In some of these patients bladder infection and—or extensive outgrowth of the cancer of the bladder neck have followed the operation. In others, the relief from obstruction has been so temporary that two or three resections, or eventually a cystotomy, have been done before the patient died.

Bumpus⁷ after an elaborate report on a thousand cases of carcinoma of the prostate concluded that suprapubic cystotomy was perhaps after all the procedure of greatest value to patients with bladder neck obstruction. Other men whose opinions are to be valued have reached the same conclusion. Whether the development of the more modern methods of transurethral resection have changed their opinions we do not know. But our experience shows very clearly that in the greater part of the transurethral patients the operation has not given as satisfactory results as cystotomy, and we repeat here that some of these patients were operated upon by other urologists some of whom have had an enthusiasm for transurethral surgery which has seemed to cause them to overlook the fact that some of their results in these cases are not so good.

Another thing in favor of cystotomy is that it can be done when necessary by so many general surgeons and in the smaller towns and hospitals where transurethral operations are not done. Of course, it is extremely important that the proper technic be employed for suprapubic cystotomy if infection of the wound and leakage about the tube is to be avoided. We have found that this can be done by the technic which we employ and we practically never have leakage and rarely have any infection of

the suprapubic wound.

Summary

A careful study of the literature on carcinoma of the prostate and an experience with various methods of treatment, which has been obtained with very good facilities for diagnosis and treatment, lead us to the conclusion that there has been no great advance made in the past few decades in the cure or even adequate control of the disease.

Any hope of controlling or curing cancer of the prostate must be based upon the discovery and a diagnosis of the growth when it is small. A better method of biopsy than aspiration through a needle must be devised before a successful demand can be made by the urologists that the medical profession discover small changes in the prostate which may be cancer. Aspiration biopsy is at times easy on larger growths, but very often unsuccessful on small growths. While biopsy by perineal exposure is adequate and often imperative, it is perhaps too extensive a procedure to be readily accepted by the patient and his medical advisor.

Radical perineal prostatectomy is undoubtedly the treatment which offers the greatest hope of cure of cancer of the prostate but, of course, the growth must be small enough to be limited to the prostate, and that depends to a large extent upon the degree of malignancy. Fortunately, the majority of the growths are of the less malignant and slow-growing type.

Treatment by radium and x-ray is clearly indicated in certain patients. *In a few patients* transurethral resection is the operation of choice for relief of urinary obstruction caused by the cancer, but its results are *often* much inferior to those offered by suprapubic cystotomy, which when properly performed in suitable cases gives more prolonged and satisfactory relief from urinary obstruction and the symptoms produced by obstruction.

REFERENCES

1. Boyd, Montague L.: Pathology of Carcinoma of the Prostate, South. M. J. 32:422-427 (April) 1939.
2. Smith, George G.: Total Perineal Prostatectomy for Carcinoma, J. Urol. 35:610, No. 6 (June) 1936.
3. Barringer, Benjamin: The Treatment of Prostatic Carcinoma, Surg., Gynec. & Obst. 62:410, 2 a (Feb. 15) 1936.
4. Moore, Robt. A.: The Morphology of Small Prostatic Carcinoma, J. Urol. 33:224, No. 3 (March) 1935.

5. Rich, Arnold R.: On the Frequency of Occurrence of Occult Carcinoma of the Prostate, J. Urol. 33:215, No. 3 (March) 1935.
6. Young, Hugh H.: Radical Cure of Cancer of the Prostate, Surg., Gynec. & Obst. 64:472, 2 a (Feb. 15) 1937.
7. Bumpus, Herman C.: Carcinoma of the Prostate, A Clinical Study of 1000 Cases. Surg., Gynec. & Obst., p. 150-155 (Aug.) 1926.

DISCUSSION ON PAPER OF DOCTORS MONTAGUE L. BOYD AND JOHN B. NUCKOLLS

Dr. J. Zeb McDaniel (Augusta): I have enjoyed Dr. Boyd's excellent paper very much and I don't feel that I can add anything to it. However, there is one point I would like to emphasize and that is that there is a marked difference in the various carcinomas of the prostate gland regardless of how they may be treated. I, too, think that carcinoma occurs far more often than most of us think. There are undoubtedly many people who have asymptomatic carcinomas who die from other causes.

Except for relieving urinary obstruction and symptomatic treatment, there does not seem to me so very much that can be done for this disease.

Some individuals with clinically and microscopically proved carcinoma of the prostate gland may live in reasonably good health for a period of years while others may be dead in just a few months.

In this connection I would like to show a few microphotographs of tissue removed from two patients by transurethral methods and diagnosed carcinoma. In the first one the patient is living and well five years after transurethral resection and the second died within six months of metastases.

Dr. W. R. Golsan (Macon): I have enjoyed Dr. Boyd's paper and Dr. McDaniel's discussion of it very much, and have listened to it with considerable interest as we have some ten cases with carcinoma of the prostate under our care at the present time.

Dr. Boyd has presented his paper in his usual thorough manner and has left very little for discussion and I shall make only a few remarks in regard to our own observations. Unfortunately, all the patients with carcinoma of the prostate that have been seen by us were in an advanced stage and hope of permanent cure was not considered. We have been interested only in prolonging life and making them as comfortable as possible by relieving obstruction and alleviating pain as much as possible. Several of these patients we have resected, others we have drained by way of the suprapubic route and those with no obstruction no surgery was done.

All of our patients have been treated by deep x-ray therapy. No radium has been used. We have had very good luck with x-ray, not from the standpoint of cure, but they have been made more comfortable and we believe life has been prolonged. All forms of treatment have been criticized and we have tried to treat our patients with the procedure which seemed to best suit the individual patient. If the obstruction was of the bar type, we have resected. If the lesion was massive, we have drained suprapubically. All of our patients were treated with x-ray. We have had several patients with

diagnosis of carcinoma of the prostate made clinically where no biopsy was made. These patients we have treated by x-ray only. They have seemed to get along very well.

Two patients come to my mind who were suffering with marked urinary frequency, nocturia and dysuria. One patient preferred to go to New York and have further study done. After going to New York and being seen by one of the outstanding men in that city, he returned to us with the advice not to have any surgery done but only deep x-ray therapy. We have done that and at the present time he is resting comfortably. He does not require narcotics and seldom has nocturia at all.

In closing, I wish to quote Dr. Charles Mayo in just one sentence, "Regardless of the procedure used in treating carcinoma of the prostate it is bound to be wrong."

Dr. Rudolph Bell (Thomasville): Dr. Boyd is to be praised in giving us so much information in such a short period of time. Doctors McDaniel and Golsan have made very able discussions.

As to the methods of attacking cancer of the prostate, by far the most important one is its early recognition. Unfortunately, there are no definite symptoms to be correlated in early prostatic cancer but a vague pain in the region of the perineum is one of the most suggestive. Any suspicious area or nodule noted on examining the prostate should be suspected as being malignant. To procrastinate in making a thorough examination of the prostate, including biopsy, until the classical symptoms of prostatic cancer have become manifested, renders any form of treatment other than palliative hopeless.

Cancer of the prostate, as a rule, spreads very slowly. If a good urinary outlet is afforded to preserve the renal function and prevent uremia several years of comfort and usefulness may be expected unless interceded by some intercurrent malady. Transurethral resection of the cancerous tissue may be done with little shock to the patient and it enables him to empty the bladder entirely and thereby maintain the kidney function.

Deep x-ray therapy may be of value in helping to shrink the size of the gland and to delay metastases. After metastases and its sequela have become pronounced, any further transurethral resection of the gland is contraindicated. Radium implanted into the gland following a transurethral resection has not proved to be any benefit in my hands.

Of eighteen patients with cancer of the prostate coming under my care within the last six years, there has been but one whom I advised to have more than palliative treatment. The seventeen other patients were too far advanced to even hope for a cure under the most radical procedures. This, together with the established fact that twenty-five per cent of all men past seventy years of age have cancer of the prostate, should inspire all of us, as physicians, to do a digital rectal examination in routine physicals on all adult male patients.

Dr. Robert Drane (Savannah): Dr. Boyd recently sent me only the summary of this paper. The remarks

which I have prepared must be taken then as a general discussion of this subject. I agree with him that early diagnosis is most important, and that unless the gland is removed when the cancer is limited, all our curative methods are of little avail.

The x-ray is of no aid in diagnosis until metastasis has taken place. Cystograms and aerograms may demonstrate the size of the gland.

Geraghty in reporting 450 cases of carcinoma of the prostate in 1922, noted its association with hypertrophy in 75 per cent, and estimated that 11.6 per cent of adenomas undergo malignant degeneration.

Batson, of Philadelphia, has shown that injections of water suspended bismuth into the dorsal vein of the penis, and Wagoner, of Philadelphia, into the superior hemorrhoidal vein, are deposited into the pelvis and lumbar spine. These veins, with the vesicoprostatic plexus, all enter the internal iliac vein. Thus it is logical that the prostatic blood enters the vertebrae.

Wagoner and Pendergrass in 1932 (*Am. Journal of Roent.* 1932), in a study of the intrinsic circulation of the vertebral body, stressed that the three longitudinal venous channels, namely, the posterior meningeoarchidien; anterior meningeoarchidien, and azygos and hemiazygos, (a) have no valves; (b) the vertebral body venous system is interposed as parallel horizontal shunts between the posterior and anterior venous channels; (c) that the sinusoidal spaces in the vertebral bodies function as filtration beds.

They feel that these factors form the basis for the anatomic explanation of metastasis to the spine.

Bumpus, who systematically examined his patients roentgenologically, found bone metastasis in 30 per cent.

Raymond Dossot (*Journal of Urology*, February 1930) does not believe that cancer remains limited to the prostate for any length of time, and that by the time it is possible to recognize cancer of the prostate clinically, it usually has spread to other parts of the body. When recognized clinically, he regards all forms of treatment—surgery, a combination of surgery and irradiation, as frankly mediocre, because of the inability at this stage to eradicate completely all of the malignant process. The only patients in which a hope of cure can be entertained, are those operated upon with a diagnosis of adenoma, in whom histologic examination shows the existence of cancer. External radiation does not deliver a killing dose, and the implantation of radium seeds is technically difficult, and not exact. "In frankly malignant cases the best therapy is palliative therapy—sounds and cystotomy for comfort, and irradiation for pain."

During the course of deep radiation therapy, the administration of fruit juices, calcium gluconate by mouth, and the intramuscular injection of vitamin B₁ often lessen or control radiation sickness.

Since most men of advancing years experience some dysuria, and accept it as natural, and since punch operation is taking the place of complete removal of the gland, these early malignancies unrecognized in hypertrophied glands, will be missed. The outlook is not bright. Realizing the early tendency of this lesion to metastasize, it is well to examine roentgenologically

the skull, lumbar vertebrae and pelvis before prostatectomy. This is especially true if the patient complains of rheumatic pains or neuritis.

Dr. Montague L. Boyd (Atlanta): Whenever you listen to a discussion on cancer of the prostate, you hear the same thing from everyone who has had adequate experience—discouraging reports of our lack of ability to control or cure the patients who come to the urologist.

One so often reads an article from a good urologist about a method of treatment which he has employed in a certain number of cases, and the author has thrown so much enthusiasm into reporting the benefits which have occurred from his work, that new hope arises that an effective method has been found. But when you study, as we have done, the results of all kinds of treatments in a fairly long series of cases, it becomes evident that little benefit is derived from any method.

In treating cancer of the prostate we must do what has been done about cancer of the breast and of the cervix—namely, find the cases early enough to make a cure by radical treatment possible. The general medical physicians must make a routine prostatic examination of the prostates of all men over forty-five looking for evidence of beginning cancer. I know that is difficult, a finger cot or a glove never seems to be at hand when needed, but it is evident that the examinations must be made.

An extension of the cancer by the blood vessels does occur in some patients, probably in the very malignant growths which appear most frequently in younger patients, and where the diagnosis is usually made by finding the metastases, because extensive metastases occur when the growth is still quite small. But a large number of the slower growing cancers are limited to the prostate until they are comparatively large and can be removed entirely by radical prostatectomy.

As to x-ray treatment: In the 150 cases we have studied, large amounts of deep x-ray therapy have been given to almost every patient. We have often found that there was a temporary improvement—the patient felt better, the induration in the prostate lessened, and the patient voided easier. But after a shorter or longer period, rarely over a year, they begin to grow worse and further control is impossible. The results obtained with radium have been much the same except that with the very small growths diffuse planting with gold seed in and about the growth may cure it or control it indefinitely.

The published results of the treatment of habitual abortion (miscarriage) with vitamin E are sufficiently encouraging to justify further clinical experiment, a report in *The Journal of the American Medical Association* for June 1, authorized by the Association's Council on Pharmacy and Chemistry, declares.

"Such experiments are justified only if preparations of vitamin E of known activity are used and if adequate diagnosis and clinical control can be established," the report says.

PANCREATITIS

Report of Cases

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This interesting and apparently rare disease of the pancreas has received considerable attention from the internist during the past few years. However, it is not yet a medical problem alone, but jointly medical and surgical.

Whether one uses the term pancreatitis or pancreatic necrosis makes little difference, as it is recognized that the terms are synonymous and denote a toxic process characterized pathologically by edema, necrosis, gangrene and suppuration.

I wish to discuss briefly some of the clinical variations encountered in this disease and then report four cases in an effort to illustrate a protean symptomatology, as well as the trend in treatment. It is rather poor psychology for the average physician to feel that this disease is difficult to diagnose. The solution, as I see it, is first, to think of the pancreas as a trouble maker; secondly, to recognize the existence of a varying symptomatology, and thirdly, to combine clinical findings with available laboratory study. Clinically we think of this disease as an acute, agonizing epigastric pain, radiating in type, followed by nausea, vomiting, extreme toxemia, collapse and occasional cyanosis. The pain produced will not yield to morphine. The proximity of the pancreas to the solar plexus of nerves, duodenum, bile ducts, great blood vessels and its location in the epigastrium readily offers an anatomic explanation of the above symptoms. Such symptomatology typifies the fulminating type, but leaves little room in one's memory for the less severe types. It is now recognized that all grades of pancreatitis exist from the agonizing to the mild upper abdominal colic, transient in nature and without toxemia. These mild affections are easily overlooked, unless we consider the pancreas as a possible factor in upper abdominal complaints.

Etiology

The cause of this disease remains in part an unsolved problem. However, there are some very interesting theories which considered separately may sound convincing. Possibly the oldest is that a block at the lower end of the common bile duct forces bile into the pancreatic duct which in turn either acts directly or activates ferments. Surgical observation, I am told, does not always verify the existence of a common duct block. The second theory is that a block occurs in the smaller pancreatic ducts due to metaplasia of the lining epithelium which in turn forces the pancreatic juice into the surrounding tissues. Likewise, objection has been raised on the grounds that such a block does not always exist; however, this objection is a bit vague. It is quite possible that nervous and circulatory changes may be a factor; certainly no organ in the body is so thoroughly surrounded and penetrated by blood vessels as the pancreas. All in all, several causes undoubtedly enter into the formation of this disease.

Laboratory Aids to Diagnosis

There is a tendency to discourage too much emphasis being placed on laboratory study. However, I feel that this is one disease in which the laboratory should play a part in the diagnosis. Specific laboratory tests are unfortunately numerous and offer certain technical difficulties. They are based on a retention of pancreatic ferments in the blood, and an excretion of these ferments in the urine. It appears that they are equally reliable and whichever test one uses is a matter of personal preference. I wish to comment briefly on serum amylase, lipase and blood sugar. Serum amylase appears in the blood normally from 80 to 150 units and the test can be completed within about one hour. Unfortunately it may return to normal within a couple of days. Serum lipase is found normally up to 1.5 cc. in terms of twentieth normal sodium hydroxide, but the test is tedious and requires twenty-four hours for completion, which, as you readily see, is a disadvantage in that it delays an immediate diagnosis. On the other hand it remains elevated for a period of about ten days, and for this reason is

superior to amylase only in the element of time.

In the observation of four patients, glycosuria and hyperglycemia were noted in three. Even in the presence of a relatively high blood sugar only a trace of sugar may be found in the urine and the probability is that some toxic process takes place in the kidney. Therefore, a negative urine is of little value. The frequency of hyperglycemia is reported from 50 to 90 per cent. At any rate, an elevated blood sugar in the presence of a suspected pancreatitis is undoubtedly of great diagnostic value.

Now I wish to cite four cases, each of which illustrates certain variations much more vividly than I could possibly accomplish by a general discussion.

REPORT OF CASES

Case 1. C., white male, long and lanky, aged 35, an unemployed alcoholic, was seen in July, 1937. He gave a history of having had three attacks of dyspepsia during the previous year and was complaining of indigestion and loss of appetite. He was admitted to the hospital for ten days, and recovered. Two months later he complained of generalized aching and a dull pain over the left kidney area. The examination was not remarkable except for a fever of 101 degrees F., pulse rate 94, and tenderness over the left kidney. Urinalysis and blood count were not significant. This condition persisted for 14 hours, when a severe pain appeared in the upper abdomen accompanied by nausea and vomiting. The fever was 101.6 degrees F., pulse rate 136, respiration 28, blood pressure 106/60, the skin moist and cold, and the upper abdomen rigid. White cell count was 21,000 with 81 per cent polynuclears. Urine showed a trace of sugar. The fasting blood sugar was reported as 173 milligrams. Hematemesis developed and was protracted, but improved after a day or so, and then hiccough developed, followed by intestinal paresis and extreme toxemia. A left pleural effusion was noted and removed. Fluid was clear and otherwise negative. Edema appeared over the left kidney region but the psoas shadow was normal. On the fourteenth day of his illness an operation through a left renal incision revealed a suppurative mass involving the pancreas. The postoperative period was unsatisfactory. A flat chest plate showed consolidation of the left lower lobe. Eventually what appeared to be a lung abscess ruptured into a bronchus and thereafter recovery was uneventful.

Comment. This patient had experienced three previous attacks of so-called indigestion, possibly a mild pancreatic edema. The present attack was mild in the beginning and became more severe after a period of 14 hours. From this point on the symptoms were more or less typical. The pancreatic

abscess, intestinal paresis, pleurisy, lung abscess and the findings of glycosuria and hyperglycemia need no further comment.

Case 2. M., a physician, aged 49, 6 ft., 3 in., and weighing 250 pounds, was seen in November, 1937. His previous health had been good. He was seized with pain under the sternum which radiated down the inner side of the left arm. Examination revealed blood pressure 120/80, fever 98.6 degrees F., pulse rate 80, heart and abdomen normal. Several doses of morphine were required for relief of pain. A low grade fever, precordial rub, and leukocytosis followed. An electrocardiogram showed evidence of coronary occlusion. Things went nicely for two and one-half weeks and then very severe pain appeared across the upper abdomen, followed by vomiting. Examination revealed fever 101.8 degrees F., pulse rate 148, blood pressure 100/60, skin cold and clammy and upper abdomen rigid. The vomitus became bloody and profuse. The urine showed a trace of sugar, white cell count 38,550, red cells 5,400,000, Sahli-112 per cent, polynuclears 84 per cent, blood sugar 216.2 milligrams. Within a few hours coma ensued, and he expired after having been ill for only one day. Treatment consisted of saline with glucose and insulin intravenously, morphine and the usual supportive treatment.

Comment. The original attack of coronary occlusion was followed within two and one-half weeks by severe epigastric pain, hematemesis, collapse, coma and death. Glycosuria and hyperglycemia were reported. It is interesting to suppose that an embolus originating in the heart and lodging in one of the pancreatic arteries might have been a precipitating factor; however, there was no evidence of embolism elsewhere. This case represents the fulminating type with which we are all very familiar.

Case 3. G., a minister, aged 50, 5 ft., 8 in., and weighing 140 pounds, had been in good health until November, 1933, at which time he developed a sore throat with fever and generalized aching. The following day he complained of a sensation of constriction around the upper abdomen, nausea and vomiting. On several occasions the vomitus contained small amounts of blood. The temperature and pulse were elevated. Three specimens of urine showed a trace of sugar. The vomiting became disturbing and he was hospitalized. Upon admission the blood sugar was 143.2 milligrams, this being two days since he had retained any food. The white cell count was 15,200 with polynuclears 86 per cent. The abdomen became distended and there was definite rigidity in the upper half, painful to pressure especially left of the midline. Toxemia was profound and vomiting so distressing that the surgical consultant instituted continuous venoclysis. Fluid appeared in the right lower chest and was withdrawn at intervals. The examination was not noteworthy except for blood. A small mass was noted deep in the right pelvis. During the second week it was necessary to place the patient under an oxygen

tent where he remained for several days. He was discharged on the thirty-fourth day of illness in fair condition. At home recovery was incomplete, and I was asked to see him again. The examination revealed a pelvic mass which could be felt only by rectum. This was drained through the rectum and thereafter recovery was uneventful. At a later date the gallbladder was x-rayed and found to be normal. He has had no further trouble.

Comment. The part played by the sore throat is unknown. The constriction around the upper abdomen followed within a few days by rigidity and tenderness over the pancreatic area; abdominal distention with involvement of the right pleural space and lower abdomen when considered with hematemesis, glycosuria and hyperglycemia completes the picture. There was insufficient evidence to support a diagnosis of ruptured viscus; certainly, it would be difficult to explain all of the above findings on this basis.

Case 4. C., a middle aged white male, 5 ft., 10 in., weight 160, bus driver, was first seen in December, 1938. He complained of vomiting over a period of several days and had had several attacks during the past three years, each lasting from three to seven days. On occasions pain appeared in the right upper quadrant necessitating morphine. In 1937 the gallbladder was x-rayed and gallstones visualized. Examination revealed tenderness and rigidity in the right upper abdomen. There was no evidence of jaundice. White cell count was 22,500, with polynuclears 86 per cent. Urine showed a trace of albumen and many casts. X-ray of the gallbladder was reported as cholecystitis, without evidence of stones. While being prepared for cholecystectomy, he developed epigastric pain which radiated across the left upper abdomen. This was followed by a septic fever, nausea and vomiting. There was no evidence of blood in the vomitus, and subsequent urine tests failed to show any sugar. Fasting blood sugar was normal and blood culture negative. Nausea, vomiting and fever eventually subsided and a cholecystectomy was done the thirtieth day of illness. The postoperative diagnosis was chronic cholecystitis, without stones, and pancreatitis. The pancreas was markedly enlarged and gave one the impression of a prize ear of corn. Recovery was uneventful.

Comment. The past history of this patient was typical of gallbladder disease. The pancreas was not suspected until pain developed over the gallbladder and radiated to the left upper abdomen. At operation the pancreas was found markedly enlarged.

Summary

Mild, moderate and severe types of pancreatitis are emphasized with the hope that we may become more pancreas-minded. The cause of this disease remains unsolved. The

test for pancreatic ferments and hyperglycemia with its counterpart glycosuria are important diagnostic aids. Four case reports of this disease are presented in whom there were certain clinical variations. The treatment was conservative, three eventually coming to operation and recovering, and the remaining patient succumbed without operation. Since conservative treatment has apparently lowered the mortality rate it is felt that further trial in the direction of moderate conservatism is warranted.

FURTHER OBSERVATION ON THE ANTENATAL USE OF QUININE*

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During the past few years many physicians in foreign countries have advocated the daily use of small quantities of quinine salts in the last weeks of pregnancy, to lessen the difficulties and dangers of labor. I have used this method for five years with the utmost satisfaction: it has shortened both the first and second stages of labor, and apparently retarded the usual complications.

Hewetson gave quinine to all of his pregnant patients with the intention of preventing malaria. He observed that the quinized patients had a consistently easier and shorter confinement than women who were not given the drug, that their lying-in period was shortened, and that morbidity was markedly diminished. Other physicians have reported that the duration of labor was shortened several hours in both primiparas and multiparas when quinine was used; that there was little hemorrhage and less shock; that ergot and pituitrin were rarely needed; and that quick recovery, followed by uniformly good uterine retraction, was obtained.

I have been unable to find unfavorable reports on this cheap and harmless method of shortening the duration of labor, and lessening the dangers which are always connected with parturition. There are no contraindications to the use of quinine, except an idiosyncrasy which may result in discon-

tinuing the use of any drug. One and one-half grain doses of quinine three times a day, beginning three weeks before the expected labor, are harmless. These small doses have a distinct tonic effect, but large doses often have the opposite effect.

While quinine administered antenatally is a tonic and increases the tonus of the muscle fibers of the uterus by directly stimulating the cells of the muscles, it is impossible at the present time to explain fully its pharmacologic effect. The increased tone of the muscles will hasten the development of the lower uterine segment and more positively develop the bag of water, which will more quickly efface the cervix and dilate the os. The increased tone which is imparted to the muscle fibers of the uterus acts inversely on the soft structures of the pelvis which dilate more easily and rapidly.

A large number of my patients have voluntarily mentioned the fact that their general health has been improved by the small doses of quinine. Some expressed a definite feeling of being stronger; their appetites had been improved, and those with indigestion and heartburn had been relieved entirely during the time they took the drug.

In 1936 I reported 60 patients who had been treated with quinine dihydrochloride, three times daily for three weeks before their expected labors. Since that time I have had 104 other patients. This report includes all of my cases and 318 patients who were attended by other physicians, all of whom used my method of administering the drug and keeping records. The 482 cases reported show:

The total duration of labor as shown in the above table is considered as the time measured from the first recognized pain; and the time of severe pain is considered as the time measured from the patient's crying out or seeking to hold something, or asking to be given something to relieve her. Painful labor is, therefore, considered labor from the time the physician feels that he should do something for the patient, such as the administration of analgesic or anesthetic. The result in this larger number of cases is not quite as good as in my original and smaller series of cases, but the early

*Read before the Fulton County Medical Society, Atlanta, November 2, 1939.

<i>Total number of patients. 482.</i>	<i>Duration of painful labor.</i>	<i>Total duration of labor.</i>
Primiparas—321.	Average, 2 1/6 hours.	Average, 10 3/4 hours
Multiparas—161.	Average, 1 1/6 hours.	Average, 6 1/3 hours

ones were probably more carefully selected and I have also had to make allowances as best I could, in those cases not attended by me, for the difference in the cases, as to time, methods and means that were used. The cases reported on were all normal or closely approaching normal, although I have used the method in several cases of dystocia and other abnormalities. However, the number is not large enough to be reported as authoritative, although I consider that the abnormal cases offer a rich field for study and investigation and I hope that further work will be done along this line.

There were eleven (2.3 per cent) cases of postpartum hemorrhage, which is lower than the average in obstetrics. A large number of the patients were not given pituitrin or ergot after the delivery of the placenta; none of my personal cases was given either, and I was unable to observe any difference in the firmness of the uterus in these patients by comparison with unquinized patients who were given pituitrin or ergot or both. There was no report of retained remnants of placenta, which is one of the most frequent causes of postpartum hemorrhage as well as infection.

Fever after delivery was conspicuous by its infrequency, which I attribute to good retraction and prompt involution. Thirty-seven (7.8 per cent) had fever during the first seven days following delivery, which reached 100 degrees F. or more, and was caused by shock, infected nipples, mastitis and other causes. There was no case of puerperal sepsis. The large clots that are often expelled after delivery were not seen in any of my cases, which is good evidence of a firm and continued retraction of the uterus. Absence of clots lessens the frequency of infection, and without the remnants of placenta the causes of postpartum infection are almost eliminated.

There was only one case of retained placenta in the entire series, although a number were extracted by Crede's method, usually as a time saver. This is a matter

that is largely governed by the obstetrician's temperament, and a large number of placentas would be expelled spontaneously if time were allowed. The improved muscle tone does facilitate spontaneous delivery of the placenta, however. Afterpains do not seem to be influenced at all by this method of treatment. False pains were less frequent and there seemed to be no tendency for patients to go into labor prematurely as a result of the treatment with quinine.

This method of administering small doses of quinine should not in any sense be considered a method of inducing labor, for I believe that it is now agreed by pharmacologists and clinicians that quinine is not an oxytocic, nor is it of any value in inducing labor.

Precipitate labor occurred with no more frequency than is usual, although many patients delivered so quickly and easily that they might almost be classed with the above, but I attribute this to a mild and often relatively painless first stage of labor, assisted by the softening and relaxation of the pelvic tissues. So many patients are ready for delivery before they are expected that it is best to make it a hard and fast rule not to leave patients once they are in labor, if they have been quinized.

I have used quinine dihydrochloride, 90 grains in 60 No. 5 gelatin capsules, and direct that they shall be taken one just before each regular meal, beginning three weeks before the expected onset of labor and continued further if labor does not come on at the expected time. This simplified treatment should be rigidly adhered to if the best results are expected, for if less frequent doses are given the concentration of quinine in the blood will vary. If larger doses are used the very purpose of this treatment seems to be defeated in many cases, and there is no reason to give larger doses when smaller ones will accomplish every purpose desired. Other salts of quinine may be just as useful, but I think that the hydrochloric acid in the salt used by

me is of great help, and I have not used any other salt of quinine.

Infant mortalities have been reported from mothers having been given quinine, but in every case I have investigated large doses have been ingested, usually in a very short space of time and often in an effort to induce labor, for which it is worthless.

Partial or permanent deafness in infants has been caused by several drugs being taken by mothers during pregnancy, but where quinine was thought to be the cause very large doses had been taken and usually within a very short space of time. I have not found any case where deafness was suspected as being caused by the small doses of quinine, but all of the cases reported by Taylor and others have been caused by large doses given very close together or relatively large doses continued for a long time. It is possible that small doses might injure both mother and fetus if an idiosyncrasy existed, but it is not difficult to detect symptoms caused by the drug if undue sensitiveness exists when it can be promptly discontinued. I have had no case of death nor deafness.

REFERENCES

1. Hewetson, W. M.: *Brit. Med. J.*, Jan. 28, 1928.
2. Smith, Linton J.: *Med. Assn. Georgia*, July, 1936, p. 247.

ROCKY MOUNTAIN SPOTTED FEVER

Case Report

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This case of Rocky Mountain Spotted Fever is reported because of the rarity of the disease and to emphasize the fact that it occurs in Georgia. It is believed to be the first case in this State in which the diagnosis has been proved by laboratory methods.

The patient was a thirty-five year old, white, married woman. She had always been well except for measles, mumps, pertussis and a tonsillectomy. On May 25, 1939, several hours after working in her garden, she found a tick at the edge of the hair line on her forehead. The tick was firmly attached to the skin and was thought similar to the dog ticks which are prevalent in this community. A few days later another tick was removed by the patient but it had not long been in contact with the skin.

On May 31, 1939, the patient did not feel well and the next day had a chill followed by a temperature of 102 degrees and a headache. She thought she had a respiratory infection and did not seek medical aid until June 6th when she first noticed a rash. Physical examination showed a patient who looked moderately ill. Her temperature was 102 degrees; her pulse 96. She had a maculo-papular rash covering the entire body. It was most profuse on the arms. The color was reddish brown and the macules faded on pressure. They were 2 to 4 mm. in diameter. The vessels of the conjunctivae were slightly injected. The roof of the mouth was covered by small white areas and the pharynx was very red. The heart and lungs showed no abnormalities. The blood pressure was 96 systolic, 70 diastolic. The liver and spleen were not palpable. A tentative diagnosis of typhus fever was made and the patient was admitted to Emory University Hospital.

During the next eight days she was seriously ill. Her temperature was continuous, ranging up to 104.8 degrees. She had a marked photophobia, and headache of great severity which was unrelieved by aspirin or codein. There was nausea without vomiting and joint pains became particularly acute in the left knee. There was occasional slight delirium. Prostration was great. The skin was hypersensitive. The rash persisted, becoming more confluent and browner. Improvement was noted for the first time on the fourteenth day of the illness. The temperature fell by lysis. By the twenty-first day the headache was gone and the rash had almost disappeared.

Treatment was apparently without effect in shortening the course or alleviating the discomfort of this illness. Aspirin, codein, ice bags and cool sponges were used but helped little. Neoprontosil, 40 grains daily, was given from the ninth to the thirteenth day without any noticeable change in her condition.

The laboratory findings were as follows:

Urinalysis: 6-7-39—Specific gravity, 1.010, pH 6.0, Albumin 0, Sugar 0. Microscopic: 4 to 5 epithelial cells.

W.B.C.: 6-7-39—6,700 (8th day of illness). 6-10-39—11,000 (11th day of illness).

Differential: 6-10-39—Seg. 81, L. 7, Mono. 2, E. 1, B. 1.

Agglutination Tests:

Proteus OX19, 6-8-39, Negative (9th day of disease).
6-14-39, Positive in 1:10, 240 dilution.

Proteus OXK, 6-14-39, Negative.

Proteus OX2, 6-14-39, Negative. 6-20-39, Positive 1:20.

Protection Test on blood taken during convalescence showed complete protection against the rickettsia of spotted fever.

On the patient's dog and on the dog of a neighbor ticks were found which contained the virus of spotted fever. A Weil-Felix test on the former dog showed some reaction in low dilutions.

The study of the ticks and the agglutination and protection tests were done in the Georgia and U. S. Public Health departments. Their interest and cooperation furnished the conclusive evidence that this was a true case of Rocky Mountain Spotted Fever.

Comment

Brill's disease or typhus fever and the eastern variety of Rocky Mountain Spotted Fever are so similar that without laboratory aid it is impossible always to distinguish between them. There are several differential characteristics but these are by no means constant. The rash tends to be more profuse and most intense on the upper extremities in spotted fever. It is usually found on the face in spotted fever and has never surely been seen on the face in typhus. Prostration is greater and photophobia and headache are usually intense in spotted fever. Typhus fever is transmitted by the rat flea in the southeastern United States and is caused by the *Rickettsia prowazeki*; spotted fever, carried by the dog or wood tick, is caused by the *Dermacentroxenus rickettsii*. The mortality rate of the former is estimated at one per cent, that of spotted fever at 25 per cent.

While a single case of a rare disease is interesting, in this instance it is important, too, from the standpoint of further occurrence. Once an infection has been found in a community the danger of its recurrence is ever present as long as the transmitting agent, in this case the tick, continues to exist.

BIBLIOGRAPHY

- Rumreich, Adolphe S.: J. A. M. A. 100: 331-334 (Feb.) 1933.
 Rumreich, A., Dyer, R. E., and Badger, L. F.: Pub. Health Rep. 46: 463 (Feb.) 1931.
 Florman, A. L., and Hafkenschiel: Bull. Johns Hopkins Hosp. 66: 123-133 (Feb.) 1940.
 Brunsting, L. A., and Dry, T. J.: Proc. Staff Meet., Mayo Clinic. 14: 737-740 (Nov.) 1939.
 Bauersfeld, E. Herbert: J. A. M. A. 112: 1819-1820 (May) 1939.
 Parker, R. R.: J. A. M. A. 110: 1185-1188 (April 9) 1938.
 Parker, R. R.: J. A. M. A. 110: 1273-1278 (April 16) 1938.
 Brennemann's Practice of Pediatrics vol. 2, p. 1-14.
 Lumsden, L. L., and Tucker, C. B.: J. Tennessee M. A. 32: 339-341 (Oct.) 1939.

USE OF SULFAPYRIDINE REQUIRES CARE

The necessity of frequent and careful bone marrow and blood studies when sulfapyridine is used for prolonged or intermittent periods, is given additional emphasis by the report of three cases of granulocytopenia (deficiency of granule blood cells) in children, made by Nathan Rosenthal, M.D., and Peter Vogel, M.D., New York, in *The Journal of the American Medical Association* for Aug. 12.

Sulfapyridine is a valuable drug in the treatment of pneumonia in adults and children. It is usually effective within two or three days, but is as toxic as sulfanilamide.

In addition to the continuous nausea which usually follows the taking of sulfapyridine, dangerous toxic complications may arise, of which granulocytopenia and jaundice are the most important symptoms.

TREATMENT OF BODY FLUID LOSS

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These observations are prompted by witnessing a patient brought into the hospital recently suffering so severely from dehydration that the attendants thought him too near death to be removed from the ambulance. Brain tumor was diagnosed as the cause of fluid loss by continuous vomiting and diarrhea. He was carried into the hospital and within twenty-four hours intravenous saline and dextrose performed almost magical improvement in his condition. The necessity for the maintenance of body fluid is generally recognized by the profession, but often insufficient fluids are given. When the value of the administration of fluids parenterally was first being known the proper amount was not known, so that if a patient received one injection of 500 cc., or perhaps 1,000 cc., of normal saline solution intravenously or subcutaneously this was thought to be enough. Physiologists and experimental surgeons have shown how much more fluid is needed in twenty-four hours in order to sustain life. The average patient requires from 2,500 to 3,500 cc. The full amount must be given parenterally if the patient is receiving no fluid by mouth. It should be recalled that from 50 to 90 per cent of our food is water.

Second to air, water is the most vital single substance necessary to sustain the physical animal. In newspaper accounts of persons surviving thirty and forty days without food it is not stated that they live without water. If no water is taken life will terminate within a few days. Chloride in the form of sodium chloride is the next most essential substance, almost as necessary as water itself; and next comes some form of carbohydrate such as dextrose. It is fortunate, in patients who cannot or will not take these essentials by mouth, that they can be given so easily and successfully by other routes. Potassium and calcium also are needed and may be provided in Ringer's solution which, besides containing saline, 0.7 per cent, has potassium chloride

0.03 per cent and calcium chloride 0.025 per cent. Proteins in the form of amino-acids soon will be available for intravenous use, in which case, with the addition of the much publicized vitamins, life may be sustained a considerable time without swallowing food or drink.

Blood transfusion naturally would come up as the next consideration, but this is another story. The main point to be emphasized at present is that various kinds of fluids for intravenous administration are now on the market, much better prepared than the average druggist or operating room can make them, so that practitioners anywhere can obtain such solutions promptly and in sufficient amounts. Rendering such therapy possible may prove life-saving to patients in remote communities who cannot or will not be hospitalized. Manufacturers are due grateful thanks by the profession and public. Sometime in the near future "bank blood" may be available similarly, as is now true in Russia.

Attention should be directed not only to the restoration of lost fluids but also to their prevention. This applies especially to patients on the operating table. Nurses are apt to cover patients with layer after layer of sheets, blankets and towels. One hospital adds a heavy canvas cover. At best fluid loss during a prolonged operation is considerable, so that the amount should not be increased by the addition of so much unnecessary cover. More cover may be needed today, however, in air-conditioned operating rooms.

Parenteral administration by the venous route is the surest, least painful, quickest and best, provided careful asepsis is observed, and air is not allowed to enter the vein. Sometimes subcutaneous injection is more practicable and safer. Solutions prepared for these methods are expensive when used in large amounts. The same solutions may be given at much less cost per rectum and colon, and may be tried at least once, especially when the patient has not fully recovered from the anesthetic. Often as much as 2,000 cc. may be retained in this manner, which may be all that is necessary in uncomplicated cases.

The indications for employing parenteral

fluids are too numerous to discuss in a short article. Surgical patients derive the greatest benefit, although the method may prove a boon in any field of medicine. Certainly every practitioner should remember the imperative need for keeping proper fluid balance, and be prepared to administer the treatment. Modern surgery could hardly exist without its hourly use of these life-giving liquids. They constitute the most valuable of all manner of postoperative therapy, and especially in hemorrhage and shock. In goiter cases they are indispensable, while in intestinal obstruction their use in large quantities often is as necessary as the operation, and may obviate the necessity for operation. If only one kind of treatment could be given in extensive burns the majority of surgeons would vote for parenteral fluids. Altogether this twentieth century acquisition to the surgical armamentarium holds first place in importance among all non-operative methods of treatment.

A METHOD OF NUTRITIONAL PROTECTION DURING SENESENCE

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During senescence, many conditions are prevalent which tend to prevent the adequate utilization of a well balanced diet. Degenerative processes, voluntary or required dietary restrictions and organic disease, especially if it occurs in the gastrointestinal tract, all play an important role in interfering with proper digestion, absorption and assimilation. In this manner, they pave the way for nutritional deficiency states.

It is generally recognized that an adequate, energy-producing and nutritional protective diet is an essential requirement during old age. However, since an ample dietary regimen is usually not well tolerated by this type of individual, a fortified food drink was used as a supplement to their regular therapy. The purpose of this supplementary feeding was two-fold; first to supply essential vitamin mineral elements and secondarily, by using it as a flavoring agent to act as an incentive to these individuals to drink the required amounts of milk.

Thirty senile individuals having a variety of gastrointestinal disturbances were given Cocomalt as a food drink. It was found that the product was well liked, well tolerated and did not cause any aggravation of their symptoms. In most instances, during one month of observation, there was an improvement in the red blood cell count and per cent hemoglobin, an increase in appetite and a moderate gain in weight. It was also found that the ability to tolerate milk was greatly enhanced by its use.

THE PRESIDENT'S PAGE

ACUTE ABDOMINAL DISEASE

Since the advent of the nasal duodenal suction tube and its use in relieving intestinal pressure by draining off the intestinal contents, one is justified in taking a few hours' time to study more carefully the patient with acute abdominal disease, and to utilize methods to improve his condition, before operating on him. In almost all acute conditions of the abdomen, except where there is strangulation or shutting off of the blood supply and the diagnosis is not apparent, the patient will be much better off to have the tube inserted, have fluids given him intravenously and have the doctor arrive at a correct diagnosis than to have immediate surgical intervention.

The term "acute abdomen" is used to cover those patients who have severe acute surgical conditions of the abdomen that require immediate attention, in whom the diagnosis is not apparent. This term includes a multitude of conditions: Alton Ochsner has shown that over forty conditions cause acute abdominal pain.

The most common diseases of this group occur in the following order: (1) Acute Appendicitis; (2) Ruptured Peptic Ulcer; (3) Peritonitis Secondary to Any Condition; (4) Intestinal Obstruction; (5) Ectopic Pregnancy; (6) Twisted Ovarian Cystic Pedicle; (7) Acute Hemorrhagic Pancreatitis; (8) Perforation of Gallbladder; (9) Mesenteric Thrombosis; (10) Diverticulitis; and (11) Ruptured Viscus (either spontaneous or traumatic).

In addition, conditions either medical or those that do not require immediate surgery and which simulate these diseases so closely that they have to be eliminated in making a differential diagnosis are: Black Widow Spider Bite; Pneumonia or Diaphragmatic Pleurisy; Coronary Thrombosis; Renal or Biliary Calculi or Colic; Acute Salpingitis; and Tabetic Crisis.

To arrive at a correct differential diagnosis one should first obtain a good history, including the past history, particular attention being paid to previous attacks of indigestion, menstrual periods, habits, exposure to spider bites, previous operations, dysp-

nea, previous chancre, coughs, etc. The present history should bring out carefully the onset of pain, the type of pain: whether colicky, boring, constant or intermittent, radiating, dull or excruciating. It should also include the condition of the bowels as to constipation or diarrhea, whether enema has been effectual; whether nauseated and vomiting, and character of vomiting; and the amount of shock present, if any.

After the history has been obtained one should make a careful physical examination. This should, of course, be complete; for example, the pupillary reflex may cause one to suspect tabes; the lungs may reveal a pneumonia with referred pain; the heart may be irregular, causing one to suspect coronary disease.

On examination of the abdomen one should first look for a mass; rigidity, if present; where, and the amount of rigidity, as to whether board-like or moderate; next tenderness, amount and location; auscultation with the stethoscope would reveal the activity of peristalsis, being quiet or absent in the neighborhood of inflammatory lesions, but very loud in obstruction; percussion would reveal tumors or fluid level or air above the liver, etc.

After this examination certain laboratory tests might aid in the diagnosis: examination of the urine would be of either positive or negative value; the blood count, especially the hemoglobin value, and the presence or absence of leukocytosis, and the degree of leukocytosis all are of great value.

In certain cases x-ray examination would be of value; the free air bubble in perforation of ulcer, and the fluid level or stepladder picture of obstruction. If coronary disease were suspected, an electrocardiogram should be made.

Rarely, I think, would one be justified in using the peritoneoscope; it would be preferable to do an exploratory laparotomy. If one could not arrive at a diagnosis through the use of the above methods he should, without delay, do an exploratory laparotomy.

J. C. PATTERSON, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

OCTOBER, 1940

APPENDICITIS

Appendicitis cannot be prevented, but within certain definite limitations few deaths, if any, need result from this disease, states Surgeon General Thomas Parran of the United States Public Health Service.

Nearly 14,000 people died from appendicitis in 1939. In 1937, the last year for which reliable information is available, the United States had the second highest death rate from appendicitis in the world. The disease strikes persons of both sexes; neither infants nor old people are spared.

This disease is an inflammation of the appendix, a dead-end part of the large intestine, about the size of the little finger, located in the lower right quarter of the abdomen.

The usual symptom is persistent pain in the abdomen. At first pain is apt to be in the pit of the stomach. Later, it may become sharp and cramp-like in the lower right side of the abdomen. The patient usually feels nauseated and may vomit.

If the sharp pain stops suddenly, the appendix has probably burst, and unless medical and surgical care are obtained without delay the chances of recovery are small. The poisons from the appendix are quickly absorbed by the lining of the abdomen, causing the spread of infection, and death from peritonitis results.

There is no medical cure for appendicitis. The most effective treatment for this disease is early and prompt removal of the inflamed appendix. There is little or no danger from the operation itself. The patient and his family have nothing to fear except the possible bad results of their own delay.

Appendicitis will disappear from the list of "killers" if the public will cooperate with the medical profession and follow these four simple rules:

1. Consider any abdominal pain as a dangerous sign.
2. When there is abdominal pain, do not take a laxative, drug, or enema.
3. If pain lasts more than 2 or 3 hours, call a physician. If pain is severe, call a doctor at once.
4. Until the physician arrives, apply an ice bag or other cold application over the painful area in the abdomen.

FOOT TROUBLE

It is estimated that 90 per cent of all people in the United States suffer from some kind of foot trouble, according to findings of the United States Public Health Service.

The studies indicate that a great extent of America's foot trouble could be avoided if individuals would follow a few simple and effective preventive measures.

The figures for the general population have their counterpart in groups likely to be called for military service. Figures for the last war showed 80 per cent of the men were rejected for military service because of defects of the feet. It is expected that figures for the present group will equal or exceed those for the last war.

The recommendations of the Public Health Service are as follows:

1. Select shoes and hose that fit properly. Tight shoes cause pressure and shoes that are too large cause friction. The heels of shoes should be kept straight.
2. Shoes should be well supported through the arch of the foot, particularly for children whose feet tend to flatten when they stand up.
3. The growing child should be taught the importance of foot cleanliness, and how to protect the feet against ill-effects of what may seem to him to be minor injuries.
4. During adult life foot trouble may be a part of a general bodily condition where attention should be directed toward the improvement of the general health.
5. When standing for long periods, place the feet 2 to 4 inches apart, point them straight ahead and support the weight on the outside of the feet.
6. In stepping forward the weight should fall first on the heel, whereupon the body is carried forward over the foot, weight

being applied along the outside of the foot from the heel to the small toe and finally across the forward part of the great toe.

7. The toe nails should be cut straight across and not too short.

8. Frequent cleansing and careful drying of the feet, together with frequent changes to dry hose and shoes may aid in relieving excessive perspiration.

9. Prompt care of all wounds and blisters on the feet may prevent serious consequences.

10. Fallen arches are the result of weakened leg muscles which allow the main or lengthwise arch in the foot to sag. An orthopedic surgeon should be consulted about this condition, as special treatment frequently is indicated.

11. The feet should be bathed at least once a day with soap and warm water and then thoroughly dried.

12. Exercise the feet. The arches may be strengthened by bending the toes—best accomplished by picking up small objects, such as marbles, with the toes.

THE GONADOTROPINS AND THE HUMAN OVARY

The clinician has looked hopefully to endocrinotherapy for the alleviation of certain disorders in the female due to ovarian imbalance. Well established is the usefulness of estrogenic substances and corpus luteum hormones in many of the endocrinopathies; their action, however, is purely substitutional and not necessarily corrective. When gonadotropic substances from the urine of pregnancy (chorionic gonadotropin) became available for clinical use some 9 years ago, it was enthusiastically received by physicians. Theoretically, the physiologic basis for the therapy of hypogonadism, sterility, menorrhagia, oligomenorrhea with this extract appeared to be sound. Much was expected from anterior pituitary-like substances obtained from human pregnancy urine. Incredible thousands of injections were administered by gullible physicians into unsuspecting patients to their utter disappointment. It is true that many favorable results have been obtained. Success may be attributed to coincidence, the psychologic effect of the injection (sa-

line may have sufficed), the mildness or temporary nature of the disorder or concomitant thyroid therapy. Perhaps in occasional cases heroic doses were used that proved adequate to produce certain changes in the ovaries.

It has long been recognized that the anterior pituitary gland supplies the primary physiologic stimulus under which the ovaries develop and function. Urinary gonadotropic substances (chorionic gonadotropin) act differently in the human being than they do in laboratory animals and have not fulfilled the original hopes entertained for them as a true pituitary type of gonadotropic hormone. Extracts of the anterior pituitary gland have become available for clinical use and hold much promise. However, such gonadotropic extracts are not free from the presence of other factors such as thyrotropic, lactogenic and other hormones. Pregnant mares' serum appears to possess anterior pituitary-like gonadotropic properties. It has been claimed that this substance is capable of causing rapid follicle growth. The follicles ripen, rupture, release their ova and are converted into corpora lutea. Such claims have not been wholly substantiated.

At the University of Georgia School of Medicine an evaluation of the various gonadotropins was recently undertaken¹ which has yielded certain pertinent facts.

1. Pregnant mares' serum, extracts of the anterior pituitary and chorionic gonadotropin are capable of producing certain changes in the human ovary. The reactions fall into two groups: desirable and undesirable. These reactions are not predictable and concurrent with the changes characteristic of one group there may be those of the other, one or the other predominating.

2. The gonadotropins contain various ratios of a follicle stimulating and a luteinizing principle. The further isolation of these two factors and their administration in balanced proportions may finally prove the answer to satisfactory gonadotropin medication.

In the meantime, in order to obtain better balance between follicle stimulating principle and the luteinizing factor, we have resorted to combining chorionic gonado-

tropins with either pregnant mares' serum or anterior pituitary extracts with very encouraging results. What the proper ratio between the doses of one and the other is, is still in the experimental stage. This much may be said: that the gonadotropins, properly handled, may hold the key to the solution for the treatment of ovarian imbalance.

ROBERT B. GREENBLATT.

¹Greenblatt, R. B., and Torpin, Richard: The Evaluation of the Various Gonadotropins, J. M. A., Alabama, 9: 409, 1940.

SOME COMMON FUNGOUS DISEASES OF THE SKIN

Dermatomycosis

In this geographic area ringworm is by far the most common disease due to a fungus. There are several genera and in turn several species of each genus. Some types of ringworm will attack the skin and nails but not the hair, while others will attack the hair and skin but not the nails. Cats, dogs, farm animals, rabbits and canaries are common sources of infection. Ringworm of the beard is occasionally seen while ringworm of the scalp of an adult is seldom seen.

The objective signs of ringworm vary widely and sometimes only a microscopic examination of the epidermis, nail, or hair can establish the diagnosis. All eruptions on the hands and feet are not ringworm.

Itching varies from mild in the case of ringworm of the scalp to severe in ringworm of the feet. In uncomplicated cases of nail infections there are no subjective symptoms.

All ringworm infections are curable but it is difficult to keep the patient interested after the acute attack has subsided and the "itch" gone. One must keep in mind that a cure is not effected until all spores are killed.

X-ray therapy is the most valuable single agent in the treatment of ringworm. It acts by producing a biochemical change in the tissues which is unfavorable to the growth of the fungus.

A good plan to follow is to instruct the patient to continue the daily use of a reliable fungicide for six weeks after all visible signs of the infection have disap-

peared. Usually it is a waste of time to treat infected nails because we do not have medication which will penetrate the diseased plate sufficiently to reach the deeper fungus. The diseased nail-plate should be removed before any local treatment is begun.

Cutaneous Moniliasis

The best known species of the monilia genus is the organism investigated in 1843 by Charles Robin and named *Oidium Albicans*. This parasite causes thrush infection of the skin as well as thrush of the mucous membranes.

In recent years monilia have been recognized as the cause of perleche, intertrigenous dermatitis, paronychia, and certain vesicular eruptions of the feet. These conditions behave like ringworm infections in that they tend to relapse and cannot be cured in a short time.

Thrush of the skin about the mouth and genitals usually can be recognized readily because of the clinical picture of the adjacent involved mucous membranes.

Paronychia due to monilia is most commonly found in cooks and housewives. Endemics in fruit and vegetable canning centers have been known to occur. Clinically, the paronychia resembles one caused by the cocci except the discharge from between the nail-plate and cuticle is scanty and more serous than purulent.

An intertrigenous eruption, commonly seen in the third and fourth interdigital spaces of the hands, is known as *erosio interdigitalis blastomycetica*. This condition always presents a characteristic clinical picture. It is usually found in women who keep their hands in water a great deal of the time.

The vesicular eruption of the feet, caused by monilia, may be mistaken for ringworm infections, and a microscopic examination is necessary to establish the true etiologic factor.

Again, all eruptions of the feet and hands are not ringworm or "athlete's foot."

Monilia infections are difficult to cure. Patience and therapeutic persistence must be practiced to eradicate the infection.

HOWARD HAILEY, M.D.

WOMAN'S AUXILIARY : OFFICERS 1940-1941

President—Mrs. H. G. Banister, Ila.

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Historian—Mrs. W. A. Selman, 760 Penn Ave., N. E., Atlanta.

BRAWNER CUP CREDITS

Mrs. Eustace A. Allen, of Atlanta, chairman of the Mrs. James N. Brawner Trophy Committee of the Woman's Auxiliary to the Medical Association of Georgia, has compiled the list of credits that will govern the award of the cup this year. A year-book will be stressed, each county Auxiliary being asked to prepare a simple booklet with names of officers and chairman and program outline. Of particular importance toward the credits for the award are health education programs, subscriptions to Hygeia, payment of dues on time, and exhibits at the state convention.

Mrs. James N. Brawner, beloved Atlanta woman and first president of the Woman's Auxiliary to the Medical Association of Georgia, presented the handsome cup to the Auxiliary for award at each annual convention. The winner for the first year was Baldwin County Auxiliary at Milledgeville, and last year the cup was won by Ware County Auxiliary at Waycross. The winner retains possession of the trophy until the next convention.

The complete list of credits follows:

1. An Advisory Committee from local Medical Society, and send name or names to State President 2½
2. Full force of active chairmen (or as many as membership allows) to correspond with State and National Auxiliaries..... 2½
3. State and National dues paid by March 15th: dues to be accompanied by properly filled out membership and receipt blanks..... 5
4. At least three items of publicity sent to State Publicity chairman each year (District and County Publicity Chairmen send notices in regularly) 5
5. Program plans for year's work made into a *Year-Book* form and a copy sent to the State President 5
6. One or more Health Education Programs during the year open to the public or to representatives of lay organizations. (Number of meetings and approximate attendance)..... 10
7. Report active participation in some projects for community betterment (annual examination of school children; immunization drives; assisting in Women's Army for the control

- of Cancer, etc.) 10
8. Providing speakers on health subjects for lay organizations (Parent-Teachers, Women's Clubs, Church Groups, etc.) Report number 5
9. Number of members who served as Health Chairman in other organizations..... 5
10. Increase in Hygeia subscriptions. (How many over last year)..... 5
11. Gift of Hygeia subscriptions to local library: schools; hospital reception rooms; nurses dormitories, etc. (Give number)..... 5
12. Increase in membership (over last year)..... 5
13. Report of year's work sent to the State President by April first..... 2½
14. Delegate representation at Annual State Convention and Report of year's work presented. (Names of delegates and alternates)..... 2½
15. (A) Exhibit of Scrapbook at State Convention 5
- (B) Exhibit of Year-Book at State Convention 5
16. Exhibits of highlights of year's work, such as: posters, charts or other means. (Must be the work of members and originality counts) ... 10
17. Donation to State Student Loan Fund..... 5
18. OBSERVANCE OF DOCTORS' DAY,
MARCH 30 5

NATIONAL BULLETIN

The Woman's Auxiliary to the American Medical Association is seeking to increase the subscription list of the Bulletin, published four times a year by the national publicity committee. Mrs. George H. Ewell, of Madison, Wis., is chairman of the press and publicity committee and Mrs. H. E. Christenberry, of Knoxville, Tenn., is circulation manager. Subscriptions are \$1 a year and may be sent to Mrs. Christenberry, Highland Drive, Knoxville, Tenn., or to Mrs. J. Harry Rogers, Georgia publicity chairman, 134 Huntington Road, Atlanta, Ga. Mrs. Christenberry has the following letter in the October Bulletin:

As this issue of the Bulletin comes to you, we members of the staff are giving serious and searching thought to the affairs of the Medical Auxiliary. It is our earnest desire to be of benefit as your leaders in this department. It is hoped we can be a satisfactory medium to bring to you the plans and progress of the Auxiliary from "border to border, and coast to coast."

We believe that only through information can inspiration be stimulated.

We believe that through knowledge of successful activity more activity will be motivated.

We believe that well-tried plans of work should be passed on to other organizations.

We believe that the lay member should have a knowledge of the aims and activities of our departments.

We believe that the Bulletin in its enlarged form is the proper vehicle for these messages to reach every member.

We believe you will enjoy the message of your National President, Mrs. V. E. Holcombe, in this issue.

We believe you will enjoy Dr. Van Etten's message to the women.

We believe you will enjoy being among the six thousand subscribers we hope to secure this year.

We believe you will use the subscription form found in this issue to have the Bulletin sent you each quarter.

We know we shall be very happy to have your cooperation in its distribution. We have an interesting and powerful organization to aid the interests of the Medical Profession. Let us get together this year and prove again that we are worthy of the name of "Auxiliary to the American Medical Association."

FULTON COUNTY

Talks by Mrs. H. G. Banister, of Ha, president of the Woman's Auxiliary to the Medical Association of Georgia; Dr. Charles E. Rushin, president of the Fulton County Medical Society; and Dr. Lewis M. Smith, chairman of the society's advisory committee, featured the September meeting of the Woman's Auxiliary to the Fulton County Medical Society. The meeting, held on September 6 at Habersham Hall, was presided over by Mrs. Olin S. Cofer, president, and opened with a prayer by Mrs. W. A. Selman, chaplain, and a song, "God Bless America" with Mrs. Luther Byrd at the piano.

Mrs. Harry Rogers, secretary, read the minutes of the June meeting and of the executive board meeting in August, both of which were approved. Mrs. John Turner, treasurer, reported \$104.75 on hand on August 31. Mrs. Dewey Nabors, ways and means chairman, announced the committee would sponsor an antique tea October 9 at the home of Mrs. O. H. Matthews. Mrs. M. T. Edgerton, public relations chairman, reported that Mrs. W. M. Dunn had made three health talks over radio station WATL and that Mrs. Jeff Richardson had compiled a list of films available for use by the Parent-Teacher Associations. Mrs. Eustace A. Allen read an interesting report of the recent convention of the Woman's Auxiliary to the American Medical Association, after which Mrs. Cofer announced that Mrs. Allen was elected third vice-president of the national group at that time. Later the members adjourned for a delightful luncheon with Mrs. J. J. Martin and her committee in charge.

GWINNETT COUNTY

An Auxiliary to the Gwinnett County Medical

Society was organized on August 16 at a meeting in Lawrenceville. Mrs. C. W. Roberts, of Atlanta, former president of the Woman's Auxiliary to the Medical Association of Georgia, acted as chairman of organization.

Mrs. D. C. Kelley, of Lawrenceville, was named president of the new group, other officers being Mrs. W. W. Puett, of Norcross, vice-president; Mrs. A. D. Williams, of Lawrenceville, secretary; and Mrs. J. C. Orr, of Buford, treasurer. Other members of the society are Mrs. W. T. Hinton, of Dacula, and Mrs. W. P. Ezzard, of Lawrenceville. Others from Atlanta attending the meeting with Mrs. Roberts, were Mrs. Edgar H. Greene, Mrs. Allen Bunce, Mrs. W. A. Selman and Mrs. Edgar Shanks.

RANDOLPH COUNTY

The Woman's Auxiliary to the Medical Society of Randolph County met on August 2 at the home of Mrs. J. C. Patterson in Cuthbert. During the business sessions reports were given by the delegates to the annual state convention, held in Savannah. One new member, Mrs. Floyd Rogers, of Coleman, was present.

ANNUAL MEETING OF EYE AND EAR SPECIALISTS

The American Academy of Ophthalmology and Otolaryngology will hold its forty-fifth annual convention in Cleveland, October 6 to 11, with headquarters at the Hotel Cleveland.

The Academy, an organization of more than 2,500 specialists in diseases of the eye, ear, nose and throat, carries on an active program of education for its members. In addition to scientific papers, an elaborate series of courses is presented at each convention to bring the members up to date in their chosen fields. More than 100 of these teaching lectures will be offered this year.

In the past year arrangements have been made to extend the teaching activities to young physicians just entering on specialization. Home study courses are being prepared for any of these young men who wish to take them and their work will be supervised by members of the academy interested in improving the caliber of specialists in practice.

The Cleveland meeting will be noteworthy in several respects.

The Academy will honor Dr. Secord H. Large, Cleveland, who this year completes thirty years as comptroller of the organization. Dr. Large, as the honor guest of the meeting, will receive many special distinctions.

Immediately following the Academy meeting, there will be a Pan-American Congress of Ophthalmology, October 11 and 12, which eye specialists from all the Latin American countries are expected to attend.

Dr. Frank Brawley, Chicago, is president of the Academy and Dr. Frank R. Spencer, Boulder, Colo., is president-elect. Vice-Presidents are Drs. Arthur W. Proetz, St. Louis; Joseph F. Duane, Peoria, Ill., and Charles T. Porter, Boston. Dr. William P. Wherry, 1500 Medical Arts Building, Omaha, is executive secretary.

GEORGIA DEPARTMENT OF PUBLIC HEALTHT. F. ABERCROMBIE, M.D., *Director***THE LOCAL HEALTH DEPARTMENT
AND THE PRIVATE PHYSICIAN**

Individualism is an outstanding characteristic common to most physicians in this country. Close personal patient-physician relationship is the foundation upon which American medical practice has developed. Provided he can reach a physician and can afford to take advantage of the advice and treatment needed, the average American citizen can, by random choice, secure an average medical attendant, probably the superior of any in the world.

Nevertheless, there are many problems of general and specific relation to health in which the individual or family services of the physician become distinctly limited. To attempt to tide successive members of a family through typhoid fever, without being able to eliminate the continuing hazard of the infection, is to render a distinctly limited service. Yet, if the hazard arises on other premises, the family physician is in a position to do little about it. To treat, summer after summer, malaria in one or more members of a family, only to know that the following season will bring repeaters, is far from satisfying to a conscientious physician. Yet, he or the family alone can do little to change this condition. And so with many communicable diseases, and with diseases arising as a result of risks common to the community, there must of necessity be a community effort if the role of the physician is to be other than palliative.

All too often one feels rather proud of having restored to health an extremely sick individual, only to see the effects nullified in a matter of months by a repetition of the same illness, or the onset of some other which is preventable. A cooperating agency which can take up where the practitioner leaves off supplies the only means whereby these occurrences, once so common, have become now much less so, and will continue to disappear in the future. The full time organized city or county department of pub-

lic health is peculiarly adapted to supply this community service. However, results are dependent upon cooperative action between the medical attendants of the community and the work of the department.

There are likewise many health problems tending to center into family groups, where the solution is essentially a matter of personal or family hygiene, but where the economic condition, housing situation, and lack of time, make it impossible for the physician to bring into application the necessary instruction and procedures for their elimination. More often than not a patient with tuberculosis, once diagnosed by the physician, cannot be treated successfully under the home conditions, nor the safety of the other members of the family be insured. The entire family of a tuberculous household rarely can afford continuous close health supervision by a private physician. Also the natural disinclination to employ the services of a physician by those not obviously sick is a barrier. A large reservoir of syphilis is found among those who have neither the funds nor the inclination to return faithfully for treatment sufficiently long to arrest the disease or prevent its transmission. In cases of this sort, the health department is in a position to collaborate with the practitioner and under his direction supply the supervision and guidance toward the securing of improvement for the sick member and protection for the rest of the family.

Many physical defects and illnesses, often in themselves of a minor nature, repeatedly assail children and adolescents who, nutritionally and otherwise, are under par. Wherever the physician can render guidance to well babies and young children, there results an astounding decrease in such illnesses. Some of the better informed well-to-do see the wisdom of expenditures for this purpose, thus enabling the medical profession to render them a valuable service. However, many families can afford the services of a physician only in case of

dire need, and it is unreasonable to believe that they can secure such advantages unless someone does a job of organizing. The medical man does not try to persuade people to patronize him. For the individuals whose contact with the physician is limited to cases of emergency and serious illness, the only practical means of securing preventive services and hygienic advice for their children is through a child health center.

Over one-third of the cases of childbirth in the state are, of necessity, attended by midwives. The Georgia midwife cannot be considered a completely adequate attendant, but her results would be much worse in the absence of the meager instructions which she is able to assimilate, and some form of regulation to cull out the least acceptable. Under no circumstances can a midwife render prenatal care, nor can such care be supplied by private physicians to individual midwife cases at a cost which they are able to meet. The only practical way of partially meeting this need is through clinics where the physician in a relatively short time can see a relatively large number of patients. Maternal health centers, though by no means a substitute for individual medical care, do help to bridge this very serious gap.

It is economically impossible for every practicing physician to equip himself with laboratory facilities for the performance of serologic, bacteriologic, and various other examinations, or for him to have available an x-ray for use in chest cases. If the necessary apparatus were in the hands of each physician, much of it would not be employed sufficiently often for him to become and remain technically skilled in its use. Local departments of health, through cooperation of the State Department, supply a much appreciated service.

Biologicals and antiluetic drugs are supplied to physicians free of charge, or at cost, through the State Department of Public Health. Frequently such products are needed immediately, and loss of time is involved, unless a local stock of fresh preparations be available. Where physicians have developed a habit of regularly obtaining these biologicals through the local department, invariably when the emergency need

arises, day or night, it can be met.

Immunization of individuals against typhoid fever, diphtheria, smallpox, etc., is ideally the function of the practicing physician, but the extent to which these diseases can be prevented by immunization is somewhat dependent upon the degree to which the entire population is so treated. Practical experience has repeatedly shown that on an individual basis the number of immunizations accepted is negligible, except in the presence of epidemics or "scars." Of course such occasions are too late to prevent many cases of illness. Therefore the efforts of the private practitioner must be amplified by further protection, secured by mass immunization. Paradoxically, with each program of mass immunization in a community, there occurs an accompanying increase of applicants to private physicians for similar service.

It must be recognized that justification for the expenditure of public funds for health purposes derives solely from the benefit accruing to the community as a whole, and that the program of a local health department, in order to be cost-worthy, and thereby render *any service whatsoever*, must be designed and projected to the end that every possible avenue for prolongation of life and prevention of illness be thoroughly exploited. In Georgia the results of the expanded health program in recent years are quite obvious to every physician practicing in a locality now served by a health department, who had experience in that same locality previously.

H. J. BICKERSTAFF, M.D.

NEWS ITEMS

DR. W. B. HELLER, Toccoa, spoke before a meeting of the Greensboro Lions Club August 27. He is on the staff of the Stephens County Hospital and explained to the club how the hospital was built and equipped.

THE TENTH DISTRICT MEDICAL SOCIETY met at Madison August 14. Speakers on the program included the following: Dr. Sam M. Talmadge, Athens; Dr. Philip A. Muller, Augusta; Dr. H. G. Mealing, Augusta; Dr. Paul S. Kemp, Macon; Dr. J. C. Patterson, Cuthbert, president of the Association; Dr. Harold P. McDonald, Atlanta; and Dr. Allen H. Bunce, Atlanta, president-elect of the Association. The visitors were entertained at a barbecue by the Morgan County Medical Society.

DR. P. H. SMITH has been elected city physician for Savannah.

DR. R. A. BARTHOLOMEW AND DR. EMMETT D. COLVIN announce the association of Dr. William H. Grimes in the practice of obstetrics and gynecology with offices at 1259 Clifton Road, N. E., Atlanta.

THE GEORGIA BAPTIST HOSPITAL, Atlanta, staff meeting was held on September 17. Chairmen of the various committees are: Dr. Mason I. Lowance, Records; Dr. J. C. Blalock, Nursing; Dr. L. G. Baggett, Rules; Dr. C. W. Roberts, Standardization; Dr. John Funke, Laboratory; Dr. M. C. Pruitt, Clinico-Pathological; Dr. Wm. F. Lake, Radiology; Dr. O. H. Matthews, Intern; Dr. W. F. Wells, Curriculum; and Dr. B. L. Shackelford, Surgical. The Executive staff includes: Dr. T. P. Goodwyn, president; Dr. George Fuller, first vice president; Dr. H. M. Davison, second vice president; Dr. H. W. Minor, secretary; and Mr. W. D. Barker, superintendent.

A VISITING STAFF MEETING OF GRADY HOSPITAL, Atlanta, was held September 10. Dr. Robert Cox presented a patient with "Congenital Diaphragmatic Herniation;" discussed by Dr. M. H. Harris and Dr. W. L. Funkhouser. Dr. Milton Mazo presented a patient with "Brain Abscess;" discussed by Dr. Lester Brown and Dr. W. W. Anderson. Dr. Ben Hill Clifton is president; Dr. L. Minor Blackford, chairman of Program Committee.

THE NINTH DISTRICT MEDICAL SOCIETY met at Canton September 18. Dr. R. M. Moore, Waleska, made the "Address of Welcome;" Dr. C. L. Ayers, Toccoa, "Response to the Address of Welcome;" Dr. James E. Watt, director, U. S. Public Health Service, spoke on the *Typhus Research Laboratory* at Albany; Dr. Hugh Hailey, Atlanta, *Certain Dermatological Conditions*—illustrated with lantern slides; Dr. J. C. Patterson, Cuthbert, president of the Association, "Address." Luncheon was served.

DR. THOMAS B. PHINIZY, Augusta, has been granted a leave of absence for eight months by the Richmond County Board of Health to take post-graduate study at Johns Hopkins University School of Medicine, Baltimore. Dr. Victor J. Roule will act as Richmond County Commissioner of Health to relieve Dr. Phinizy during his absence.

DR. T. O. VINSON, Griffin, Spalding County Commissioner of Health, is taking a post-graduate course at Johns Hopkins University School of Medicine, Baltimore.

If interested in a location to practice medicine in Florida or Georgia, write the Secretary-Treasurer.

DR. OLIVER W. JENKINS, formerly of Cartersville and Dawson, announces the opening of offices at Lindale.

DR. EVERETT L. BISHOP, Atlanta, spoke on *The Melanomas* before a meeting of the Piedmont Post-graduate Clinical Assembly, Anderson, S. C., September 17; Dr. Jack C. Norris, Atlanta, *Technical and Chemical Importance of the Erythrocyte Sedimentation Rates*; Dr. James J. Clark, Atlanta, *X-Ray in the Treatment of Infections*. Among other vice presidents of the Assembly are: Jack C. Norris, Atlanta, and Dr. Stewart D. Brown, Royston.

THE SEVENTH DISTRICT MEDICAL SOCIETY held a joint meeting with the Seventh District Pharmaceutical Association at the Marietta Golf Club, Marietta, September 25. The program consisted of the following titles for papers and addresses: *Invocation* by Dr. B. C. Gamble; *Address of Welcome*, Dr. L. L. Welch, Marietta, president of the Cobb County Medical Society; *Some Problems on Breast Feeding*, Dr. Inman Smith, Rome, discussed by Dr. R. C. Maddox, Rome, and Dr. R. W. Fowler, Marietta; *Tularemia Pneumonia*, Dr. P. O. Chaudron, Cedartown, discussed by Dr. W. H. Lewis, Rome; Dr. Mayes Gober, Marietta, and Dr. T. F. Sellers, Atlanta; *Better Health for Georgia*, Dr. J. C. Patterson, Cuthbert, president of the Medical Association of Georgia. The Committee on Arrangements included: Doctors W. H. Perkinson, R. W. Fowler, Van Teem, L. L. Welch, all of Marietta. Officers of the Association present were: Dr. J. C. Patterson, Dr. Allen H. Bunce and Dr. Edgar D. Shanks.

DR. AND MRS. C. T. HARDMAN, Tallulah Falls, entertained members of the Habersham County Medical Society and the Woman's Auxiliary at their home at a barbecue dinner September 5.

DR. L. C. FISCHER, Atlanta, spoke before a meeting of the Pioneer Women's Society at Rich's Tearoom, September 4. The subject of his address was: *Flowers for the Living*.

DR. T. C. DAVISON, DR. B. T. BEASLEY AND DR. WM. G. HAMM, all of Atlanta, were speakers on the program at the meeting of the Florida Section of the Southeastern Surgical Congress at Miami, Florida, August 31.

THE SECOND DISTRICT MEDICAL SOCIETY met at Cairo on October 11. The program consisted of titles of addresses and papers as follows: *Invocation* by Rev. W. E. McTieme, Cairo; *Address of Welcome*, Hon. J. D. Warnell, mayor of Cairo; *Doctors and National Defense*, Dr. Allen H. Bunce, Atlanta, president-elect of the Medical Association of Georgia; *X-Ray*, Dr. J. J. Collins, Thomasville; *Special Technic for the Correction of Uterine Prolapsed*, Dr. A. W. Rehberg; *Uretero-Intestinal Anastomosis*, Dr. L. G. Baggett, Atlanta; *Georgia's Health*, Dr. J. C. Patterson, Cuthbert, president of the Medical Association of Georgia. The members and visitors were entertained at a banquet. Officers of the Society are: Dr. J. R. Paulk, Moultrie, president; Dr. Carl S. Pittman, Tifton, vice president; Dr. J. C. Brim, Pelham, secretary-treasurer.

THE THIRD ANNUAL SESSION OF THE GEORGIA INDUSTRIAL SURGEONS ASSOCIATION was held at the Ansley Hotel, Atlanta, September 25. Titles of addresses and papers on the program were: *Invocation* by Dr. Louie Newton, Atlanta; *Address of Welcome*, Dr. R. E. Newberry, Atlanta; *Response to the Address of Welcome*, Dr. C. F. Holton, Savannah; *Address*, Dr. J. C. Patterson, Cuthbert, president of the Medical Association of Georgia; *History of Fractures*, Dr. Frank K. Boland, Atlanta; discussed by Dr. Lester Harbin, Rome; *Chest Surgery*, Dr. C. D. Wheelchel, Gainesville; discussed by

Dr. J. D. Martin, Atlanta: *Eye Injuries in Industry*, Dr. B. H. Minchew, Waycross; discussed by Dr. J. H. Crawford, Atlanta: *Occupational Dermatoses—Illustrated*, Dr. S. F. Rosen, Savannah; discussed by Dr. Philip H. Nippert, Atlanta: *Hernia*, Dr. W. W. Battey, Augusta; discussed by Dr. H. M. Michel, Augusta. Invited guests were: Dr. McIver C. Wood, New York City, medical director of the Standard Oil Company, spoke on *Industrial Surgery as a Specialty*; and Dr. E. C. Holmbald, Chicago, *Better Prophylaxis and Treatment of Gas Gangrene*.

THE BIRN COUNTY MEDICAL SOCIETY held its regular monthly meeting in Ridley Hall, Macon, October 1. The program consisted of reports of clinical cases.

DR. P. H. SMITH has been appointed city health officer of Savannah.

DR. M. E. WINCHESTER, Brunswick, was guest speaker of the Brunswick Optimist Club on September 19. He discussed the health program of the Glynn County Board of Health and the U. S. Public Health Service.

DR. J. A. THIRASH, Columbus City Health Officer and Muscogee County Commissioner of Health, has been granted leave of absence until next June to take special studies in health work at the University of North Carolina School of Medicine, Chapel Hill, N. C.

DR. ALBERT N. GALIN, Brunswick, has been appointed County Commissioner of Health for Glynn County.

THE FOLLOWING ATLANTA PHYSICIANS have recently received commissions in the U. S. Army Medical Reserve Corps: Dr. Daniel C. Elkin, Dr. R. Hugh Wood, Dr. I. A. Ferguson, Dr. L. Minor Blackford, Dr. J. B. Cross, Dr. J. P. Hanner, Dr. B. Russell Burke, Dr. C. W. Strickler, Dr. Bernard P. Wolff and Dr. Edward G. Jones.

DR. C. C. HEDGES, Savannah health officer, spoke before a meeting of the Savannah Rotary Club on September 21.

DR. EDWARD S. ARMSTRONG, member of the Savannah health department, will take a course in public health work at the University of Pennsylvania School of Medicine, Philadelphia.

THE AMERICUS AND SUMTER COUNTY HOSPITAL announces the officers of its staff as follows: Dr. Herschel A. Smith, president; Dr. B. T. Wise, vice president; and Dr. W. F. Castellow, secretary, all of Americus. Other members of the staff are: Dr. R. R. Holt, Parrott; Dr. T. S. Gatewood, Dr. J. M. Kellum, Dr. A. C. Primrose and Dr. S. A. Scruggs, all of Americus; and Dr. J. C. Logan, Plains.

THE FRESHMAN AT THE UNIVERSITY OF GEORGIA SCHOOL OF MEDICINE, Augusta, received the first of a series of lectures on September 24 and 25. Speakers were: Dr. G. Lombard Kelly, dean; Dr. Joseph Krafka, professor of micro-anatomy; Dr. Wm. J. Cranston, professor of clinical medicine; Dr. V. P. Sydenstricker, professor of medicine; Dr. Fred Mettler, professor of

Anatomy; Dr. Hervey Cleckley, professor of psychiatry. The School has 26 full time professors.

THE STAFF MEETING OF EMORY UNIVERSITY HOSPITAL was held on October 8. Those who appeared on the program included: Dr. Lon Grove, Dr. Exum Ealker, Dr. Arthur Merrill, Dr. Stewart R. Roberts and Dr. Daniel C. Elkin.

THE GRADY HOSPITAL STAFF MEETING was held on October 8. Physicians on the program were: Dr. C. P. Stone, Dr. Jeff L. Richardson, Dr. Major F. Fowler, Dr. William R. Crowe, Dr. William E. Mitchell, Dr. R. Hugh Wood, and Dr. Warren B. Matthews.

THE SECOND DISTRICT MEDICAL SOCIETY met at Cairo October 11. Dr. J. J. Collins, Thomasville, read a paper entitled *X-Ray Aid in General Diagnosis*; Dr. L. G. Baggett, Atlanta, *Uretero-Intestinal Anastomosis*; Dr. Allen H. Bunce, Atlanta, *Doctors and National Defense*; Dr. J. C. Patterson, Cuthbert, *Georgia's Health*; and Dr. A. W. Rehberg, *A Special Technic for the Correction of Uterine Prolapsed*.

THE EIGHTH DISTRICT MEDICAL SOCIETY met at Douglas October 8. Titles of scientific papers on the program included: *Hookworm Disease in Coffee County* by Dr. Justin Andrews, Atlanta; *Congenital Hypertrophic Pyloric Stenosis—Diagnosis—Medical and Surgical Treatment*, Dr. H. W. Muecke, Waycross; *The Surgical Disease of the Upper Right Quadrant*, Dr. Dan A. Gerdine, Douglas; *Address*, Dr. J. C. Patterson, Cuthbert, president of the Medical Association of Georgia; *Changes in the Fundus in Systemic Diseases*, Dr. E. S. McCay, Valdosta; *Address*, Dr. Allen H. Bunce, Atlanta, president-elect of the Medical Association of Georgia. Dinner was served at the Country Club. Lt.-Col. Allen C. Garden, M.D., Infantry Reserve Corps, Fitzgerald, spoke on *National Defense*.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on October 8. Dr. H. C. Frech read a paper entitled *Chronic Cervicitis with Broad Ligament Involvement*; Dr. J. H. Pinholster and Dr. A. J. Kelley led the discussion. Dr. L. B. Dunn reported a case, *Osteotomy for Correction of Old Deformity of Knee*.

THE UNIVERSITY HOSPITAL, Augusta, maintains an elaborate clinic at the University of Georgia School of Medicine where the students under the direction of their teachers begin the practice of medicine. The department used by more patients than any other is the department for treatment of syphilitics in charge of Dr. John W. Brittingham. Other teachers and subject taught are: Dr. G. T. Bernard, *Dermatology*; Dr. C. I. Bryans, *Eye, Ear, Nose and Throat*; Dr. R. B. Greenblatt, *Endocrine*; Dr. Henry M. Michel, *Fractures*; Dr. M. S. Levy, *Gastroenterology*; Dr. J. R. Robertson, *Genito-Urinary*; Dr. Richard Torpin, *Gynecology*; Dr. Harry T. Harper, *Heart*; Dr. V. P. Sydenstricker, *Medicine*; Dr. J. H. Sherman, *Minor Surgery*; Dr. Melvis O. Corbitt, *Mother's Health*; Dr. Hervey M. Cleckley, *Neuropsychiatry*; Dr. Richard Torpin, *Obstetrics*; Dr. G. T. Bernard, *Cancer*; Dr. C. M. Burpee, *Pediatrics*; Dr. J. H. Sherman, *Surgery*; Dr. L. N. Todd, *Tuberculosis*.

THE EASTMAN ADVERTISER announces that Dr. J. D. Owens of Rochelle, will be associated with Dr. Warren A. Coleman, Eastman, in the practice of medicine and surgery. It further states that Dr. Owens will move to Eastman at a later date.

DR. CHARLES C. HEDGES spoke at a meeting of the Savannah Rotary Club at Hotel DeSoto on Brill's disease on September 23.

DR. L. N. TODD, Augusta, was one of the principal speakers before the Georgia Tuberculosis Association at Savannah, October 4.

OBITUARY

Dr. William Earl Hutto, Atlanta; member; Emory University School of Medicine, Emory University, 1931; aged 36; died suddenly in an automobile accident on August 31, 1940, near Demopolis, Ala. He was enroute to Montrose, Mississippi, to visit his mother when the accident occurred. Dr. Hutto was a prominent general practitioner and was associated in practice with Dr. B. B. Gay. He is survived by his mother and several brothers and sisters. Burial was in Montrose, Mississippi, cemetery.

Dr. Charles H. Meldrim, Savannah; University of Georgia School of Medicine, Augusta, 1893; aged 72; died August 14, 1940, of heart disease.

Dr. James S. Cochran, Norcross; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1901; age was not given; died on August 27 at his home. He was a prominent physician and practiced for many years in Gwinnett and adjoining counties. Surviving him are his widow, three sons, J. S. Cochran, Jr., Dr. W. N. Cochran and Dr. E. D. Cochran, all of Norcross; and his mother, Mrs. John Cochran of Alpharetta. Rev. Holt officiated at the funeral services conducted at Hopewell church formerly in what was known as "Old Milton County." Burial was in Hopewell cemetery.

Dr. Eugene Chester Seawright, Fayetteville; member; University of the South Medical Department, Sewanee, Tenn., 1904; aged 59; died September 2, 1940 in an Atlanta hospital. He practiced medicine in Fayetteville and surrounding community for 33 years. Dr. Seawright was prominent in civic affairs and served as Mayor of Fayetteville for several terms. He was a member of the Clayton-Fayette Counties Medical Society, F. & A. M., member and steward in the Methodist church. Surviving him are his father, James R. Seawright, Atlanta; his widow; two daughters, Mrs. Jack Day, Athens and Mrs. Lee Hutcheson, Jonesboro; three brothers, H. B. Seawright, Jacksonville, Fla.; C. E. and T. E. Seawright, Savannah. Rev. Burtz, Rev. DeBardleben and Rev. Fred Thomas conducted the funeral at the Methodist church. The Masons had charge of the burial in the Fayetteville cemetery.

Dr. George Massalon Murray, Atlanta; member; Castleton Medical College, 1909; aged 66; died on September

14, 1940, after a long illness. He was a native of Wetumka, Ala. Dr. Murray practiced in Tuskegee and Montgomery, Ala., then removed to Atlanta where he practiced obstetrics, gynecology and surgery. He was most attentive to his patients and extremely eager to help every one under his care. Dr. Murray was a member of the Fulton County Medical Society and St. Luke's Episcopal church. His widow survives him. Rev. John M. Walker officiated at the funeral services at St. Luke's Episcopal church. Burial was in Oakland cemetery.

Dr. Pleasant Leonidas Moon, Atlanta; member; Emory University School of Medicine, Emory University, 1897; aged 71; died on September 22, 1940, of heart disease at the home of his son at Pierson, Fla. He was a native of Cartersville. After he graduated in medicine, he spent sometime taking post-graduate study in Chicago. When Dr. Moon began practice, he walked to see his patients, later used a pony and buggy, then an automobile. He served as city councilman of Atlanta and on Parks Commission and a number of committees including Firemen, Police, Finance and City Hall. Dr. Moon was the first anesthetist at the Tabernacle Infirmary (now the Georgia Baptist Hospital). He was a member and for 35 years a steward in the St. John Methodist church. Surviving him are his widow, one son, Dr. P. L. Moon, Jr., Pierson, Fla., and one daughter, Mrs. H. A. Brown, Cornelia.

Dr. David P. Luke, Camilla; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1911; aged 54; died suddenly September 14, 1940, of heart disease. He was born at Sycamore, Turner County. After he graduated in medicine, he began practice at Newton, then practiced at Ashburn until 1924, then removed to Camilla where he practiced until his death. Dr. Luke served for a number of years on the Camilla Board of Education and for several years as a member of the City Council. Surviving him are his widow, two daughters, Mrs. G. C. Mays, St. Petersburg, Fla.; and Miss Margaret Luke, of Camilla; two sons, David Luke, Waycross, and Drewry Luke, Camilla. Funeral services were held at the Camilla Baptist church.

ANY PHYSICIAN MAY EXHIBIT "WHEN BOBBY GOES TO SCHOOL" TO THE PUBLIC

Under the rules laid down by the American Academy of Pediatrics, their new educational-to-the-public film "When Bobby Goes to School" may be exhibited to the public by any licensed physician in the United States.

All that is required is that he obtain the endorsement by any officer of his county medical society. Endorsement blanks for this purpose may be obtained on application to the distributor, Mead Johnson & Company, Evansville, Indiana.

Such endorsement, however, is not required for showings by licensed physicians to medical groups for the purpose of familiarizing them with the message of the film.

"When Bobby Goes to School" is a 16-mm. sound film, free from advertising, dealing with the health appraisal of the school child, and may be borrowed

without charge or obligation on application to the distributor, Mead Johnson & Company, Evansville, Indiana.

PURE LUTEINIZING HORMONE ISOLATED FROM ANTERIOR PITUITARY GLAND

The isolation in pure form of the luteinizing (interstitial cell-stimulating) hormone of the anterior lobe of the pituitary gland of swine was announced in the August 23rd issue of *Science* by Mrs. Shedlovsky and Rothen of the Rockefeller Institute for Medical Research, New York, and by Drs. Greep, Van Dyke and Chow of the Squibb Institute for Medical Research, New Brunswick, N. J. The achievement is specially noteworthy because the chemical nature of the endocrine principles of the anterior pituitary gland renders them difficult to isolate and analyze since they are proteins or complex polypeptides which are extraordinarily vulnerable to most types of ordinary chemical manipulation.

Proof of the purity of the luteinizing hormone was established by solubility studies in various buffer solutions, by obtaining electrophoretic patterns employing a Tiselius apparatus and by observations of the sedimentation rates in the ultra-centrifuge. From the data thus obtained and from the determination of the diffusion constant, the molecular weight of the pure luteinizing hormone was estimated to be approximately 90,000. Its isoelectric point was found to be at pH 7.45.

Chemical analysis of one specimen of pure hormone showed it to have the following composition: carbon, 49.37 per cent; hydrogen, 6.83 per cent; nitrogen, 14.93 per cent; ash, 0.93 per cent.

Tests of the pure hormone in hypophysectomized twenty-one day old male rats showed that one microgram of hormone nitrogen (6.7 micrograms of hormone) caused a significant increase in the fresh weight of the anterior lobe of the prostate; double this quantity produced an increase in testicular weight. In hypophysectomized, immature female rats, the hormone maintained the interstitial cells. If, however, the pure luteinizing hormone was administered after follicle-growth had been stimulated by follicle-stimulating hormone, it caused the formation of corpora lutea perhaps preceded by ovulation.

The significance of this announcement to workers in endocrinology is that it contributes to the elimination of much of the pre-existing confusion with regard to the possible number and effects of the gonadotropic hormones which have been postulated by earlier investigators. In an earlier paper the Squibb Institute workers announced the separation in *nearly pure form* of not only a luteinizing (interstitial cell-stimulating) hormone but also a follicle stimulating (gametogenic) hormone from the anterior pituitary gland. It may be assumed that by using the newest tools for physical chemical investigation which were so helpful in the isolation in pure form of one of the anterior pituitary gonadotropic hormones that the other will likewise be obtained as a pure protein.

Thus far it has not been possible to isolate large enough quantities of these pure hormones for clinical studies. This is obviously the next step as soon as satisfactory yields can be obtained. At any rate it seems

to have been clearly demonstrated that two gonadotropic hormones can be isolated from the anterior pituitary gland. They are separate chemical entities and act on different structures within the primary sex gland (ovary or testis).

WARNING

Numerous complaints have reached the Registry of Medical Technologists regarding the activities of a Mr. C. A. Bartholomew of Red Bank, New Jersey, who has launched an organization styled the "American Medical Technologists" which purports to issue certificates of qualification. It is soliciting membership especially among graduates of non-approved schools or those who are ineligible for examination by the standards of the registry.

Bartholomew has never taken the registry examination but assumes the designation of M.T. after his name in his drive for membership. He has also presumed to give approval to a number of commercial schools which are not approved by the registry.

This enterprise is not sponsored by any scientific society but appears to be motivated by commercial aspects, as a \$5.00 registration fee is solicited from those desiring to join.

To obviate any confusion of this unauthorized movement with the legitimate work of the Registry of Medical Technologists of the American Society of Clinical Pathologists, this warning is issued to all interested in maintaining high standards to disseminate the true information to the unwary about the standing of the so-called "American Medical Technologists."—American Journal of Clinical Pathology.

FOR SALE

Used microscopes, bloodpressures, sterilizers, short wave apparatus, quartz lamps, suction pumps, and laboratory equipment. Trade-ins accepted. Everything sold on 5-day approval. Write: Atlas Surgical Supply Co., 175 Second Ave., New York.

FOR SALE

One practically new Bausch & Lomb Ferree-Rand Projector at a substantial saving. If interested write Box 38, Toombsboro, Ga.

WANTED SOBER PHYSICIAN with one year or more internship for rural work. Large office, 3 beds for keeping patients over for observation. Could easily convert into a small hospital. Complete maintenance and salary \$100 per month to begin with and view to partnership.

Address "N" care of The Journal.

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PRESENTATION OF THE PRESIDENT'S KEY TO DOCTOR WILLIAM H. MYERS, OF SAVANNAH

ALLEN H. BUNCE, M. D.
Atlanta

This is indeed a very happy occasion for the members of the Medical Association of Georgia, the members of the Woman's Auxiliary to the Association and the many other friends and admirers of our President, in Georgia, and throughout the nation. It is a particularly happy occasion for me because I know so well how richly the recipient deserves and has earned every honor that we can bestow upon him. The key which I am about to present on behalf of the members of the Association is a token of our sincere appreciation of a difficult and arduous task well done.

It seems but a few years ago that, at one of our meetings, my attention was attracted by the entrance of a tall, dark, handsome young doctor who came in and took his seat quietly in a very modest manner. He listened with interest to the long proceedings, and I thought "Here is a very serious and sober-minded doctor." But just before the close, I saw a twinkle in his eye and the shadow of a smile on his face which led me to realize that he also possessed a sense of humor and a kindliness of spirit. Subsequent events have only served to deepen that conviction.

To me he has always represented the best in the American physician; that physician who is well-bred, well-educated, tolerant, loyal to his profession, his community and his nation; that physician who knows that a free democracy means a free medical profession, devoted to its development and im-

provement, yet realizing its obligation to the community, state and nation; that physician who knows that the private practitioner is the first line of defense against disease and that the private doctor stands in the front line trenches fighting for individual and community health; that physician who has consistently practiced the precept laid down by Dr. John LeConte of this city nearly 100 years ago. "The experience of late years . . . has abundantly shown that the dignity and responsibility of the profession is to be promoted not so much by legislative enactments . . . as by an increase of individual zeal and more cordial cooperation." The ideals of the American medical profession, though often surrounded by troubled waters, stand like the Rock of Ages. When this country emerges from the uncertainties of many present "foggy philosophies", the American doctor will carry the torch which lights the way to a better life.

Lack of time prohibits but the briefest mention of a few of the most important chronologic events in the busy life of our President. The first and most important of these occurred at Lynn Grove, Kentucky, on Oct. 22, 1878, in the home of the late Doctor Robert Morgan Myers and Margaret McCorkel Myers, when a lusty infant gave a rousing rebel yell. A short time thereafter Doctor and Mrs. Myers had their son christened William Herman. He soon grew tall and handsome and went away to school. On his return home for his vacations there were many flutters in the hearts of the belles of that part of Kentucky.

In 1901 he was graduated from the University of Tennessee with the degree of Doctor of Medicine and an honorary certificate which, even then, illustrated the brilliance of his mind since much of his time was taken up with extra curricular activities.

Presentation address before the Medical Association of Georgia, Savannah, April 24, 1940.

Pursuing his studies further he served as an intern in the City Hospital in Nashville and as a member of the sub-faculty of his Alma Mater. However, his restless spirit and desire for wider fields of experience led him into the medical corps of the United States Army in 1906, where he served with distinction, particularly in the Philippine Islands from 1907 to 1910. During his long, lonesome, arduous, but sometimes very amusing, career in the Philippines, it seems there was a magnet which constantly turned his eyes and his heart back to Tennessee. At the first opportunity he wangled a leave and made post haste to Nashville to the shrine of all his dreams—the home of Miss Addine Campbell. They were married in Nashville in 1910 and to them have been born William Herman, Jr., Addine and Robert Morgan. His marriage was, of course, the second great chronologic event in his life. Although he had grown bronzed and even more handsome and although the call of adventure was still strong and the “twinkling toes” still had their lure, he determined to make a permanent home for himself and family. Therefore, he resigned from the Army in 1913 to enter the private practice of medicine here in Savannah, much to the benefit of our beloved State of Georgia. He joined the Georgia Medical Society and the Medical Association of Georgia soon after his arrival, and became one of the most active members of his local society.

He had a growing family, an active practice and many other responsibilities, yet he could not resist the bugle call of Uncle Sam when we entered the World War. So he again entered the medical corps of the United States Army where he served with distinction and devotion to duty. Returning home from the World War he was, in December, 1919, elected the first President of the Georgia Medical Society after the War. In fact, for more than twenty-five years Doctor Myers has served his local profession so well that he has held every office within the gift of the society. In addition, he has served as President of the First District Medical Society, Councilor of the Medical Association of Georgia for eight years

and one of the delegates from the Medical Association of Georgia to the American Medical Association for more than ten years. During this time he has never missed a session of the Association nor a single regular or called meeting of the House of Delegates. This service in the House of Delegates of the American Medical Association has been one of the chief factors which has brought recognition of the Medical Association of Georgia by the American Medical Association to the highest point which it has reached since before the War Between the States.

In addition to his medical activities he has found time to participate in the civic, educational and religious life of his community. He was one of the founders of the Savannah Health Center and its first president. He is a Fellow of the American College of Surgeons, a 32nd Degree Mason and a Vestryman in Christ Episcopal Church in Savannah. In 1938 he was unanimously chosen President-elect of the Medical Association of Georgia and is now completing his term of service, when he and his co-workers have brought the Association to its highest peak of efficiency. It now has more members, a larger percentage of eligible doctors in the State as members, and more money in the treasury than at any time during its long and eventful history.

Doctor Myers, for and on behalf of a grateful profession, I have the very great honor to present you this golden key on which is engraved the seal of the Association showing the clasped hands representing our strong bond of fellowship. This is the key to our homes and our hearts. May you and yours “live long and prosper.”

The possibility that repeated exposures to environments low in oxygen, such as encountered by aviators flying at high altitudes, may damage the nerve cells of the brain and gradually lower the brain's reserve power, leading eventually to mental conditions comparable to those of the “punch-drunk” boxer, is suggested by investigators reported in *The Journal of the American Medical Association* for Nov. 9 by Melvin W. Thorner, M.D., Randolph Field, Texas, and F. H. Lewy, M.D., Philadelphia.

Their studies show that exposures to total lack of oxygen for periods too short to cause death lead to degenerative changes in the brains of guinea pigs and cats. “Because of quantitative differences in the extent of anoxia (oxygen deficiency) and the differences in species,” they say, “these investigations cannot be translated directly to situations of oxygen deficit in man.

PROGRESS IN KNOWLEDGE AND CONTROL OF CANCER

KENNETH M. LYNCH, M.D.
Charleston, S. C.

Although the thought was not in mind at the time, the selection of the subject of cancer for discussion here and now happens to be quite appropriate, since the month of April is set apart by public resolution of the Congress and by public proclamation of the President as Cancer Control Month, indicating the great need for concentration of effort toward halting the advance of this great scourge. Not that even special devotion for this period of time could accomplish such a purpose, but that attention of the nation should be brought to the tremendous problem and to serious thought of measures practiced, contemplated and in promise toward improving our knowledge and control of cancer.

To speak of governmental interest and participation in the control of cancer in Georgia, however, is to "carry coals to Newcastle", since this commonwealth has been a leader in that direction, and you are to be complimented and congratulated upon constructing a model organization of the purpose which others may emulate.

There is no blame to be placed upon anyone who develops this malady, and yet from time immemorial there has been a sort of stigma attached in the popular conception. So true is this even today that a person may hide the fact until it is too late for him to be helped. Further, there often occurs unreasonable and ungovernable fear in one who suspects that he may have cancer, fear, the product of the common belief that cancer is incurable.

For the purpose of relieving from the unreasonable element in this fear even if for no other, all of the present-day and growing publicity given to the disease would be justified.

Thirty-five or forty years ago one could hardly be found who believed cancer to be a curable disease, or at least bold enough to say so. Now we preach it from every van-

tage point, in order that all people may be encouraged to seek the right kind of help early enough that such help may have a chance to be effective. As a consequence, generally we are seeing cancer at a materially earlier stage. It does not mean much by comparison to the lists of those who have not survived to say that one agency has now collected data on over 30,000 people who have been cured, that there exists today a Cured Cancer Club, or that former President Cleveland was among those reported to have been cured of cancer, but at least in these facts lie proof to those who can know no proof based in the intrinsic nature of the disease. Actually, of course, such collected records of cured patients tell of only a small part of those who have been cured.

One hears almost daily the complaint and challenge that compared to its importance nothing seems to be accomplished against cancer's steady growth, implying that science and medicine are negligent in this major health matter. Actually one can say that within the past fifty years more has been accomplished in the direction of understanding and controlling the disease than in all of the previous history of mankind.

Cancer has always afflicted human kind so far as can be determined. It was well known to the ancients and the name itself was apparently given by the so-called father of medicine, Hippocrates. For twenty-three hundred years from the time of Hippocrates none could know of the real nature of cancer, not until the construction of the achromatic microscope, in the early eighteen hundreds. With that accomplishment was born the possibility of knowing what cancer is, but quite naturally it took much time and accumulation of experience for such study to get well under way.

We now know that cancer is a great family of diseases, with certain general characteristics but with as much individuality in the numerous members of that family as occurs among the many members of the family of infectious disease. In consequence of which each member must be considered on its own merits. We know that cancers are constructed of the same orders

of cells which make up the normal tissues of the living body, and that there are virtually as many kinds as there are kinds of those cells. We know that when the natural laws governing the orderly growth and work of living cells, which laws make of certain cells a hair and of others a heart and which limit the amount and behavior of all structures to the needs of the body as a whole, when these laws lose control of living cells then cancer begins, and the cancer is composed of these lawless elements.

From the time of beginning of this knowledge up to the present generation we were busy studying the structure and behavior of different types of the disease, an accomplishment which no one informed as to its nature and great volume could think of belittling. During this time we were likewise engaged in developing and perfecting measures for its eradication, as well as groping for clues as to the reason for the escape of cancer cells from the laws governing the cellular community composing the animal body. Practically speaking, until the present generation, we had no measure of cure except to remove the cancer bearing tissue by the knife, but then it was usual that the disease had already escaped the bounds of removable tissue.

Through the means of the microscope we came eventually to understand that cancer is at first always strictly localized, limited in its beginnings to a focus of such small proportions that it could be removed from virtually any place could its presence but be determined. Upon this basic fact is built the doctrine that cancer is curable, meaning that in its early stage it is susceptible to complete removal or to the action of newer destructive agencies, the x-ray and radium. In that sense cancer is the *most* curable of diseases, because at that stage the subject is not even ill.

Unfortunately cancer tends not to remain localized but to spread. Consequently as it progresses it becomes transformed from a curable disease into one incurable by any method of treatment yet discovered. When it has spread over an area too extensive or too vital to be removed or has become of such proportions that the ray cannot destroy

it, then it is no longer curable. Often the penalty for not knowing that a cancer is curable is to leave it to become incurable.

This is the stage of progress when we arrive at the present era, the period of experimentation, out of which have come glimmerings of light foretelling the dawn which may not be long in breaking.

It is not generally known that great resources have been massed and that many competent people are now devoting their lives to research into the problem. The steps taken and to be taken are necessarily slow and tedious: now and then mention is made in the lay press of some accomplishment, but usually in such garbled or popularized form that wrong or premature conclusions are apt to be reached by those who do not understand that in such matters words do not always mean what they seem to say. Commonly false hopes are stimulated and even harm is done by unscientific assumption of the significance of reports of research work. The layman is unable even to distinguish between the report of a competent scientific investigator and the claim of a faker. The result of any research endeavor, no matter how soundly based or how carefully controlled and executed, must stand before the jury of scientific analysis and confirmation before it can be accepted as anything beyond what has still to be proved.

It is now only a few brief years since the first deliberate experimental production of a malignant tumor occurred. During the intervening time this fundamental accomplishment has been multiplied astonishingly, until we have arrived at the point when cancers can be produced at will by the use of substances of known chemical composition, capable themselves of being put together by the chemist. That by itself, and if there were no other measure of progress, would make of the present era an epoch comparable to the previous one hundred years of study, and surmounting the product of all of the remainder of time in this regard.

Further, within the chemical formula of these known and controlled cancer-producing substances lies a kinship to materials

which occur naturally within the animal body and to others to which we are commonly exposed, thus opening the door to further investigation in many directions.

Also, cancers have been experimentally produced by transferring from animal to animal a thing of apparently living nature but so small or in such a form that we cannot see it through our most powerful microscopes, a thing that we call a virus; thus bringing into the picture an apparently living thing competent to release cells from their law abiding state to form cancer.

That is not to say that cancer is an infectious disease in any common usage of that term. No acceptable proof of such a cause for the disease has ever been brought forward. We may be relieved of any fear which one may have that cancer may occur because of any kind of association with a victim of the disease.

Of modern times and even during the present we have preached the doctrine that cancer is produced by chronic irritation of cells, but we have not known just what we meant in that. It is still of practical service that if chronic irritative foci of local disease are not allowed to occur or to continue we will see less cancer develop, but in every such origin of the disease there must be the existence of some substance which is itself the definite causing factor, and its true nature will become known. In speaking of chronic irritation as the cause of cancer we are using a very general and loose expression, and we are forgetting the many which certainly have no such background. In passing, it may be said without argument that cancer is not and cannot be produced by injury, such as a blow, a belief that so many women seem to have.

From time immemorial we have speculated upon the part which heredity may play in the occurrence of the disease. Many trees of cancer families have been set up. It is a common question among all of us who have known of cancer in our own lines of heritage. With certain exceptions it may be said that there is as yet nothing shown in relation to the human being which need disturb his course of natural procedure in producing offspring. An illustration of the

kind of exception had in mind may perhaps be safely made in saying that those whose family lines have shown the occurrence of a certain malignant tumor of the eye should not have children. Further, where cancer has been unusually conspicuous within one's family, extraordinary watchfulness for its occurrence in one's self might well be observed.

Perhaps it may not be well to *stress* the experimental studies from several quarters in this matter of heredity and cancer because of the danger of creating unreasonable fear, but it is *possible* to gain encouragement instead of discouragement out of it.

The laws of heredity know no genus or species, and certainly if a strain of mice may be developed by inbreeding so that all of its members will have cancer, then a cancer strain of men could be developed likewise. It so happens, however, that inbreeding is not the habit of humans generally, but rather outbreeding. Were it not for this fact and, also, that outbreeding seems to develop hereditary cancer *resistance*, it may appear that we *would* have more cancer than now. Consequently the encouraging feature in this matter of heredity and cancer.

In thinking of the resistance which we may possess against the occurrence and course of cancer, more than merely inherited resistance comes into consideration. It has long been known that the possession of one cancer tends to protect the individual from the occurrence of another, that multiple cancers in one person are rare. Further, we see apparently identical cancers in different individuals pursue quite different courses under even like circumstances. Also, while a malignant tumor may be transplanted from one animal to another one time, it usually cannot be transferred to that same animal again. In some way the animal has become immune. Not only does there seem to be an inherited resistance factor to its occurrence, and an individual variation of resistance to its progress, but it appears that there is an acquired immunity-like condition which tends to prevent a second attack. This opens a wide field of important study. The thought that a sort

of vaccination against cancer by deliberately subjecting a person to an easily cured form as a protection against subsequent occurrence immediately comes into mind. Such a procedure is already under experimentation. Further, the thought occurs that the purposeful use of a cancer producing factor in dilution, so to speak, below the dosage necessary to produce the actual disease, may stimulate the resistance process, and this has likewise been given some attention.

In considering the possibility of building resistance or immunity against the occurrence of the disease, other means of prevention naturally come to mind. It may be that rather than base our hope of control in better curative procedures we will come to depend more in prevention, closer attention to the control of conditions which precede the development of cancer, about some of which we already know and of which we expect to learn more. The prevention of cancer is no fanciful phrase; it may come to be an all-important program.

In measures of cure it would appear at first glance that we have made little progress. Actually tremendous strides have been made in recent years, so that from them, together with earlier diagnosis, we have come to expect a large per cent of cures at the present, whereas only a few years ago we expected little. Within the past few days or at least weeks, patients have been seen in whom confidence of cure was had, whereas fifty years ago probably nothing would have even been attempted.

Within our time has been added the powerful agent of penetrating, cell destroying rays from the x-ray machine and from radium, and this has become the favorable means of treatment instead of the knife in many patients. The ray will destroy malignant cells, but it will also destroy normal cells, and a major difficulty in its use has been because of the closeness of range between these good and bad influences. But we are not yet at wit's end in this problem. Enter the new measure of this general order, the cyclotron, in which we are told that the range between the good and bad effects is much wider. Beyond this hopeful men-

tion we are probably not justified to go at the present.

Neither in such measures as this nor in others are we at the end of the road. It is hopeful to record that a variety of experimentation is under way in improvement of older methods and in development of new, some along entirely new lines. Heat has long been used and in newer forms of application is now not without its place. And now comes the experimentation in the use of cold, about which considerable publicity has occurred lately. Nothing more can now be safely said about the prospects in the use of low temperatures. It is still in the stage of experimentation. But to assume that the scientific world is idle in research upon methods of curing cancer is to make an unjustified error.

The public at large and perhaps the profession at large are unaware of the many pieces of this tremendous puzzle that are being hewn out here and there throughout the scientific world. Only those who are participating or those closely interested in watching developments as they are being produced can appreciate the tremendous activity in this great research field, such as has never been seen before, and from which it is not too much to expect that it may not be long before what is now a growing menace may be brought under progressive measures of control.

We saw tuberculosis reduced from the "Captain of the Hosts" to a minor position in the scourges of man, and yet we have never had a specific cure for tuberculosis.

Much is made of the fact that cancer is on the increase. It is on the increase because we learned how to live long enough to have it. Were the span of life of man now what it was but a few years ago, cancer would definitely be on the decrease. Even though as we grow older we are in more danger from cancer, are we not really to be grateful that we have been allowed to live our lives in the meantime? After all, no one has yet proposed that we shall become immortal in the present flesh. Is it not better to succumb to cancer at fifty or sixty than to have died of diphtheria in infancy or typhoid in youth?

THE STATUS AND FUNCTION OF THE INDUSTRIAL PHYSICIAN

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The industrial physician is generally regarded as a product of very recent times, for most certainly greatest progress in this specialty has been made in the past fifty years. It is interesting to note, however, that Hippocrates, who lived in the fifth century before Christ, described many diseases associated with particular trades, such as metalworkers, fullers, etc. Other ancient writers also contributed, notably Paracelsus, who wrote voluminously on diseases and accidents of miners. Bernardino Ramazzini, 1633-1714, who wrote *De Morbis Artificum Diatriba* (Diseases of Tradesmen), published in 1700, is regarded as the founder of industrial medicine. Ramazzini's writings covered the hazards connected with a great number of the occupations of that time and described both preventive measures and treatments in a remarkably able manner.

The development of the factory system in England in the latter part of the eighteenth century brought many evils, for industrial hygiene was unknown, and child labor, very long hours, poor lighting, lack of ventilation, unguarded machinery, etc., exacted so tremendous a toll that public opinion forced the passage of the Factory Act in 1833. Under this act a factory commission consisting of three members was appointed, notable among whom were Edwin Chadwick and Doctor Southwood Smith. This commission introduced a system of inspection and reporting that resulted in numerous reforms.

Since 1887, when the first state law requiring certain safety measures was passed in the United States, various states have enacted laws designed to provide safety and good sanitation for the workman. Since 1912 most of the states have enacted compensation laws covering accidental injury in course of employment, and a number now have laws providing compensation for

diseases associated with certain industries.

Long before the passage of these laws, however, many farsighted leaders of industry had realized that the good health and welfare of the workman was a vital factor in successful operation and many able physicians were devoting their every effort toward the study of the various factors involved, and their solution.

The construction of the Panama Canal, 1904-1914, offered the greatest opportunity up to that time for a demonstration of what could be done to protect a force of more than forty thousand workmen under what were, in the beginning, most adverse conditions. The success achieved there through able sanitary work, hospitalization, housing, proper feeding, and close supervision of working conditions, set a standard for all industry. General Gorgas and his staff have generally been regarded as sanitarians, but, as a matter of fact, they were able industrial physicians.

For some peculiar reason there was for many years a tendency on the part of medical men in general to rather look down on those of their professional brethren who gave a part or all of their time to industry. The railroad surgeon, or the contract doctor as he was often called, was regarded as only a bonesetter or laceration repairer. For this same queer reason the surgery of trauma was deemed rather unimportant, if not a wee bit degrading.

Perhaps the rapid increase in our speed of living has had much to do with changing these older conceptions, for in recent years huge emphasis has been placed on the proper care of the injured. A single factor—the development of the automobile with its consequent trail of destruction, has changed the practice of almost every American hospital, and with this has come tremendous improvement in the training of surgeons in the handling of trauma. With serious injury and sudden death constantly increasing on our streets and highways, industry has been quietly, efficiently and steadily reducing the hazards of the workman, and to this great work the industrial physician has largely contributed. With contribution has come wide recognition of the value of this

special line of medical practice, marked improvement in facilities for advanced training, and the organization of special societies devoted to its study and the dissemination of special knowledge.

The tremendous scope and variety of industry in the United States at the present time has made necessary much specialization among industrial physicians; for instance, the problems of the dye and chemical industries are far removed from those of coal mining; the textile worker's environment and duties cannot be compared to those of the meat packer; nor can the risks of the hard rockworker be judged by those of the shipyard employee, and so on *ad infinitum*. It is manifestly impossible, therefore, in a paper of limited scope to discuss all of the problems of the physician in industry. We can attempt only generalities.

Broadly speaking, the surgery of industry is in no way different from present day general surgery.

Perhaps the greatest requisites for success in industrial practice involve the acquiring of a broad and comprehensive knowledge of all phases of a particular industry, particularly the conditions under which men work, including such vital factors as the fatigue element, temperature exposures, ventilation and lighting. Careful study must be given to particular hazards, such as gasses, metallic poisons, dusts, chemical compounds, etc. Study and consideration must also be given to such vital matters of routine sanitation as drinking water properly protected and at proper temperature and easily accessible, and toilet and washroom facilities.

The physician's office, its equipment and his assistants, are of vital importance. He should have every facility for confidential talk and advice. His examination and treatment rooms should be well-equipped and maintained. He should have a well-planned and well-kept system of records. Sufficient space should be available for pre-employment and periodic physical examinations to be conducted with a degree of privacy and high efficiency, and his assistants, both professional and lay, should be carefully se-

lected and trained. The necessity for elaborate diagnostic and laboratory equipment must always be judged by the demands of the particular industry.

Adequate first aid for the injured is always of primary importance in any industry, and careful consideration must always be given to the selection and placing of proper equipment and to the thorough training, if not to all, to at least a sufficient number of key employees in such essentials as artificial respiration, hemorrhage control, and to the mechanics involved in lifting, transportation and protection of the seriously injured and shocked. What not to do before the arrival of the doctor is a vital part of this training.

Knowledge of a particular industry should go hand in hand with acquaintance of the men employed, if possible from the head of the industry to its most humble employee, for the human factor is, after all, the most important problem. If the physician is the man he should be, such acquaintance will bring respect, confidence and trust, without which success is impossible, for the doctor will be called on for many decisions vitally affecting the welfare of many employees.

Pre-employment examinations are now generally accepted as routine and must be most carefully and tactfully conducted, always with full knowledge of the particular work for which the individual is being employed, for final decision must in many instances be based on this knowledge. Close cooperation with the employment office in such a way that suggestions may be readily considered is absolutely necessary.

Many industries have wisely adopted some system of periodic examination covering all employees, and in addition many have systems of disability and old age retirement. The findings and recommendations of the examining physician are the all-important factors on which decision of management must be made, often seriously affecting the fortunes of the particular employee. Tact, sound judgment and kindness, plus a built-up trust in the doctor, will go a long way in preventing any employee from feeling that he has been

wronged, a not infrequent reaction in the past.

Much the same burden is placed on the shoulders of the industrial physician in making final report as to the presence, degree of, or absence of disability following injury incurred in line of duty. Scrupulous honesty, sound judgment and courage, based on broad knowledge and experience, will always win approval of both employer and employee, for, after all, justice is what both management and labor require in the handling of compensation cases. The officials of any great industry would immediately and properly distrust the doctor whom they suspect of being anything but absolutely fair to both the industry and the employee. In most industries we believe that the policy is to give the benefit of any doubt to the employee.

One of the most disagreeable duties of the doctor in industry is the necessity of giving court testimony from time to time. Long experience has definitely fixed certain points in our minds: first and foremost, one must be absolutely certain of the facts involved; after that, if temper is controlled and any show of bias is avoided, the rest is easy. Physicians are regarded as fair game by members of the legal profession, but plain speaking, avoidance of technical terms, and absolute honesty will always disarm the otherwise embarrassing lawyer and bring approval of any able judge, jury, or compensation commission.

Many industries are now of such large size and wide scope that large medical organizations are necessary. Some own and operate their own hospitals and have a sufficient personnel to cover all of the specialties; others are so small as to require only the part-time service of a single physician.

In many industries the medical work of the physician is strictly limited to the care of the injured employee and to matters concerning working conditions; others provide for consultation and advice covering any ailment of the employee; while a limited number extend their medical services to the families of their employees as well as to the men themselves.

Decision as to the scope of any medical

service must be made after careful consideration of many factors, perhaps the most important being the type of man employed in the particular industry and the average income earned. Also worthy of study are such questions as the quality of local public health work, the accessibility of good medical facilities in financial reach of the workman, the geographic distribution of the force, and always the attitude of the local profession. There can be no possible question of the fact that intimate knowledge on the part of the physician of the living conditions and family problems of the employee are of tremendous value in the establishment of a steady and contented working force, for the man who knows that illness in his family is being properly handled without great financial burden can be counted on to produce steadily and to avoid risk of injury to himself, his fellow workmen, or the machine he is using.

In this present age of ours with so much agitation and propaganda in circulation, it is often difficult for the average workman to know just whom to trust. The physician who guards the workman's safety, who treats his illness or injury, who possibly treats and advises his family, has a wonderful opportunity in the formation and safeguarding of ideal employer-employee relations, particularly if the physician has, as he always should, constant access to executive management.

The practice of industrial medicine has steadily increased in popularity, for it opens a field of endeavor to many able men to whom the financial or competitive side of medicine does not appeal.

The status of the well-trained industrial physician is thoroughly established. He has the respect and confidence of the medical profession in general, for his chosen specialty has steadily increased in importance, and scientific attainment necessary for success can be most favorably compared to any other branch of medicine.

Practically all tuberculous individuals are Vitamin A deficient, whether as a cause of tuberculosis or an effect is not known. Marked Vitamin A deficiency might indicate that a thorough chest examination is in order if no other cause be found for this deficiency. Vitamin A deficiency is believed to be widespread. R. Harris and J. Harter, Southern Med Jour., Oct., 1940.

HYPOMETABOLISM AND MYXEDEMA

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Disturbances of the thyroid gland are probably encountered more frequently than any other of the glandular dyscrasias. Thyroid deficiency in the form of cretinism has been noted since ancient times. Gull¹, in 1874, was the first to call attention to the onset of thyroid deficiency in adult life. Ord², in 1878, further described this condition and gave it the name of myxedema. Murray³, in 1891 was the first to successfully treat myxedema and used essentially the same type of treatment as is in vogue today. Kendall⁴, in 1915, isolated the active principle of the thyroid gland, thyroxin; and Harington⁵, in 1927, was the first to synthesize this substance in the laboratory. However, the discovery of thyroxin, unlike the active principles of the other endocrine glands, has added nothing to our armamentarium of treatment since dried whole thyroid gland by mouth remains the method of choice.

Myxedema is not a very common disease and for this reason may be overlooked by those not familiar with the signs and symptoms. At the Massachusetts General Hospital the incidence of myxedema was 0.08 per cent, and at the Mayo Clinic 0.07 per cent of total patients hospitalized, according to Means⁶ who reports, over a six year period, one case of myxedema for every eight of toxic goiter in his own practice. Sturgis and Whiting⁷ feel that a wrong diagnosis is made more often than patients with typical symptoms go unrecognized. Conklin⁸, on the other hand, states that only a small percentage of the cases of myxedema coming to the Guthrie Clinic were diagnosed at the onset. The ease with which one may be misled in the diagnosis of myxedema is well illustrated by Haines⁹ who says that in cases where the diagnosis is not apparent on first looking at the patient it is usually missed. The multiple complaints usually presented by these patients easily direct attention to many organic conditions which may show a superficial

resemblance to myxedema, as pernicious anemia, nephritis and various cachectic states; or even more likely to chronic nervous exhaustion.

The discovery of an increased metabolism in exophthalmic goiter, in 1895, by Magnus-Levy was followed by studies in myxedema and other pathologic conditions. It was soon found that the basal metabolic rate, although uniformly low in myxedema, was not an absolute diagnostic procedure since the thyroid gland was found to control only about 40 per cent of the energy exchange in the body. Other pathologic conditions were soon noted, therefore, which were accompanied by a low metabolic rate in the absence of myxedema. According to Lee¹⁰, symptoms of low metabolism are common. Berkman¹¹ recently confirmed this view in an excellent article covering the entire field of low basal metabolic rate and the use of desiccated thyroid.

The purpose of this report is to study the frequency and attempt a classification of all cases of low metabolic rate encountered in the last two and one-half years, to review the symptoms and indications for the test, to compare the expected and the actual basal metabolic levels found, and to give some of the results of treatment of those patients where thyroid replacement therapy was thought indicated. Congenital thyroid deficiency as seen in cretinism is not considered in this report.

Material and Method

This study comprises the results of basal metabolic rate determinations on one hundred and nineteen patients of fifteen hundred clinic admissions from July 1, 1937, to Jan. 1, 1940. It is routine to write down the complete history, physical examination and tentative diagnosis of every patient before laboratory procedures are ordered. In this way an excellent, even if frequently shocking, method is provided of checking on the accuracy of clinical judgment. The indications for a basal metabolic rate determination in most instances fell under one of the following headings:

1. Presence of goiter
2. Symptoms of hypothyroidism
3. Symptoms of myxedema
4. Symptoms of low metabolism without myxedema

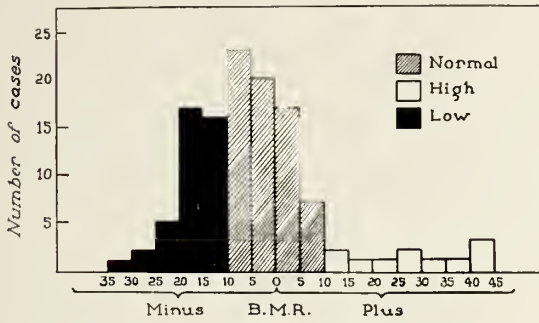


FIG. 1

The basal metabolic rate in the total series of one hundred nineteen cases.

5. Obesity
6. Disturbances of catamenia
7. Sterility
8. Previous thyroidectomy
9. Anorexia nervosa
10. Abnormalities of primary and secondary sexual characters

All of the tests in this series were performed on the Jones Motor Basal Metabolism machine and practically all by the same technician who was rigidly schooled in the proper tact and technic of the test. Every effort was made to carry out the procedure under as basal conditions as possible with the test being done early in the morning after a fourteen-hour fast and with as little physical effort beforehand as possible. Unsatisfactory tests were repeated and from a technical standpoint the tracings were quite satisfactory in most instances.

Results of Study

1. Distribution of B. M. R. level in entire series.

Of the total series of 119 patients, as shown in Fig. 1, 41, or 34 per cent, were found to have a B. M. R. of -10 or less; 67, or 57 per cent, to be normal, and 11, or 9 per cent, $+10$ or above. It was surprising to find that the number of patients having a B. M. R. of -20 and below equaled the number having a rate of $+20$ and above; and further, to learn there were 17 patients with rates between -15 and -20 and only 2 between $+15$ and $+20$. This is interesting in view of the fact that attention has been called on several occasions to the tendency of average metabolisms in the South to be lower than in other parts of the country. DuBois¹² has summarized the results of several investigators

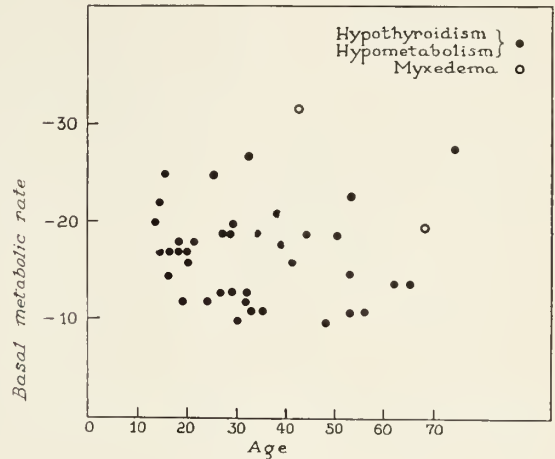


FIG. 2

The basal metabolic rate and age distribution of the forty-one subnormal cases.

in New Orleans, Charleston and Florida who found the average metabolism 6 to 18 per cent below Aub and DuBois and Harris-Benedict averages. DuBois concluded that in all of these studies made in the South it is possible that a part of the deviation was due to the unusual care in selecting and training subjects. However, it seems to me that the subject needs further investigation.

2. Level of B. M. R. and Age Distribution in Subnormal Cases.

The level of the B. M. R. in the 41 subnormal patients and their age distributions are shown in Fig. 2. The majority of the patients fell in the third and fourth decades of life. Sex distribution was interesting, there being 13 males and 106 females in the entire series of 119 metabolism tests, and 39 females and 2 males in the 41 subnormal cases, whereas the ratio of men to women in the total clinic admissions was practically unity.

3. Clinically Suspected Versus Actual B. M. R.

Fig. 3 represents a comparison between the clinically suspected and the actual B. M. R. levels. Clinical diagnostic efficiency was satisfactory only in those patients with a rate of $+15$ or above and -20 or below. In the intervening group a metabolism expected to be low had an equal chance of being normal. This may be explained in part by the tendency to suspect a low B. M. R. in cases of extreme obesity. This, however, was not borne out by facts as over half

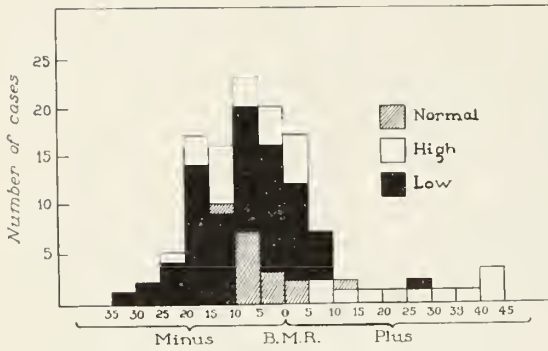


FIG. 3

A comparison between the level of metabolism suspected after physical examination and the actual rate as determined in the laboratory.

of these patients had normal basal metabolic rates. Conversely, there was a slight error in expecting an increased basal metabolic rate in some of those cases falling between +5 and -20. These patients were usually nervous, restless, frequently underweight and generally conforming to the type usually seen in chronic nervous exhaustion.

4. Frequency of Signs and Symptoms Suggestive of Low Metabolism.

The results of this part of the study, table II, amply explain why such symptoms are more correctly spoken of as accompanied by a low metabolic rate than caused by hypothyroidism. The latter disease has a train of more consistent symptoms. In other words, the isolated symptoms of myxedema may be simulated in cases of non-thyrogenous hypometabolism as well as in patients with a normal or occasionally elevated B. M. R.

5. Results of Treatment.

The most common symptoms of the group showing a substandard B. M. R. and the results of treatment with thyroid hormone are shown in table I. Cold intolerance, dry skin and dry hair, obesity and fatigability were the most common complaints. The symptoms most readily responding to treatment were cold intolerance, decreased sweating, menstrual disturbances, bradycardia, somnolence, weakness and fatigability.

In treatment we have followed the generally accepted rule of confining ourselves to one brand of thyroid (Parke-Davis Company). It is well to mention the usual varia-

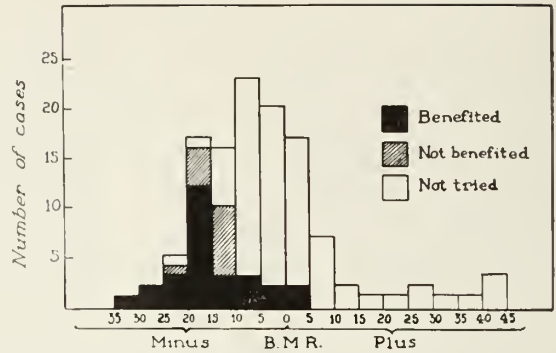


FIG. 4

The response to thyroid hormone therapy.

tion of the different brands of thyroid. Generally speaking, one grain of Parke-Davis product is equivalent to one and one-half grains of U.S.P. thyroid (Lederle, Armour, etc.), and to five grains of Burroughs-Wellcome product. The dosage, therefore, for the same results will vary a great deal depending on the brand used. Individual tolerance to thyroid extract varies somewhat. An effort was made to raise the level of metabolism to the point where the patient felt the best. Usually this was on the minus side, and around -4 or -5.

Classification

The diagnosis of all patients having a subnormal B. M. R. together with the number in each group was as follows:

1. Myxedema	2
2. Non-myxedematous hypothyroidism	3
3. Hypometabolism	
a. Anorexia nervosa	1
b. Disturbances of catamenia	7
c. Obesity	6
d. Hypopituitarism	2
e. Sterility	2
f. Fatigue state	13

Myxedema

This classification was reserved for all of those patients having a B. M. R. of -20 or less, who had trophic changes, mental and physical lethargy, low heat production and edema of a non-pitting type of the eyelids, face or extremities. By definition, dropsy of the characteristic type must be present for the diagnosis of myxedema. While definite elevation of the blood cholesterol is usually present, Means states this is not necessary for a diagnosis of myxedema.

Two cases of myxedema were encountered in this group, one uncomplicated and fairly easily diagnosed; the other ac-

accompanied by pernicious anemia and unrecognized until the blood picture failed to return to normal under standard treatment.

Report of Cases

Mrs. M. A., aged 66, admitted April 15, 1937. Chief complaint: weakness, unstable on feet 2 years.

Present Illness: Malaise, weakness, progressive debility for 10 years. Increasing clumsiness, stiffness in extremities 2 years. Fell on even sidewalk 1 year ago, fracturing arm. Paresthesiae, constipation, anorexia and dry, mealy skin.

Examination: Lemon-yellow, pallor skin grade 3. Little expression face, slow muscular movements, puffiness of the face, hands and ankles. Hair thin, short, dry. Skin dry, cold, scaling. Hearing poor. C. N. S. typical subacute combined sclerosis.

Laboratory Data: Trace albumin urine. R.B.C. 3.07, Hb. 73 per cent (Sahli). Smear typical P. A. No free HCl in stomach after histamine.

Diagnosis: Subacute Combined Sclerosis of Pernicious Anemia.

Treatment: Two cubic centimeters concentrated liver extract (Lederle) parenterally every other day for 2 weeks, then once weekly.

Progress: Although not remarkable, satisfactory in view of permanent central nervous system damage thought present. Liver extract, however, increased blood only to 4.31 R.B.C. and 88 per cent Hb. by January, 1938. Patient again complained bitterly about dry, brittle nails, dry skin, chilliness. B. M. R. —20, pulse 50, T. 97, B. P. 130/90. Diagnostic vision thereby broadened. Desiccated thyroid grains 3 daily produced dramatic results (P-D Co.). Skin warmed, nails filled out, mental and physical renaissance. Two months later R.B.C. 5.02, Hb. 108 per cent, B. M. A. —11. Six months later B. M. R. normal, thyroid reduced to grains 2. Later had slight palpitation, reduced to grain 1 daily. On 4/13/40 B. M. R. —9, R. B. C. 5.65, Hb. 105 per cent. Thyroid increased to grains 1½ daily.

Mrs. P. H., aged 42, admitted Sept. 1, 1938.

Chief Complaint: Puffiness of face and hands for two weeks.

Present Illness: Somnolence, weight gain 5 lbs. in one month. Unable to get enough sleep, may fall asleep while sitting in chair during day. Thick tongue, slight hoarseness, constipation grade 2. Aching arm muscles. Consulted family physician two weeks ago, diagnosed and treated as "kidney trouble." Progressively worse.

Past History: Caesarean 6 months ago when blood pressure rose suddenly 10 days before confinement. Some edema of ankles. Gradual weight gain 20 lbs. (90 to 110) since.

Examination: Prominent non-pitting edema eyelids, alae nasae, hands. Slight edema ankles. Pallor 2. Marked mental and physical lethargy. Voice hoarse, patient slow in speech and movement.

Laboratory Data: Urine negative. R.B.C. 4.22, Hb. 90 per cent (Sahli). Blood urea 20 mg. per cent. Urine concentrated to 1.026 with Mosenenthal test. B. M. R. —28. Repeated next day —32.

Diagnosis: Myxedema.

TABLE I.

The symptoms of patients with a low basal metabolic rate who were treated with desiccated thyroid and the response to treatment.

Symptom	No. Cases	% Benefited
Cold Intolerance	12	100
Dry Skin	12	83
Coarse Skin	2	50
Cold Skin	2	100
Coarse Hair	7	43
Dry Hair	10	40
Brittle Nails	1	100
Menorrhagia	6	50
Amenorrhea	2	50
Oligomenorrhea	3	67
Male Characteristics	5	0
Loss of Hair	2	0
Decreased Sweating	5	100
Bradycardia	1	100
Somnolence	6	100
Lethargy	8	87
Weakness	1	100
Anemia	4	100
Nervousness	5	20
Obesity	11	73
Loss of Weight	5	60
Lump in Throat	3	67
Fatigue	11	91
Thick Tongue	1	100
Hoarseness	1	100
Anorexia	3	67

TABLE II.

Basal metabolic rate findings in certain symptoms and conditions often suggesting a low metabolism.

Secondary Sexual Characters	16	11	R
	Low	Normal	High
Reason for Test	B.M.R.	B.M.R.	B.M.R.
Edema	5	2	1
Fatigue State	17	21	1
Oligomenorrhea	0	2	0
Amenorrhea	2	0	0
Menorrhagia	4	1	0
Sterility	5	3	0
Obesity	9	16	1
Thyroidectomy	2	3	0
Goiter	9	15	7
Secondary and Sexual Characters	5	4	0
Dry, Coarse Hair	16	9	0
Cold Intolerance	16	8	0
Bradycardia	1	1	0
Dry, Coarse Skin	13	11	0

Treatment: Desiccated thyroid (P-D) grains 3 daily. B. M. R. —18, 9/12/38, weight loss 6 pounds, edema gone. Rate —9, 9/22/38, and —1, 9/30/38. Maintenance dose grains 1½ daily.

Progress: Patient found she did not feel as well on grains 1½ dosage and increased it to 2. Examination 1 year later normal. Patient had left off thyroid one period of one week, noted original symptoms to slight

extent, immediately resumed thyroid. Weight gain of 4 pounds the last year.

Non-Myxedematous Hypothyroidism

There were three patients in this group who had the concomitant signs and symptoms of myxedema but without any definite evidence of dropsy. The chief symptoms were marked cold intolerance, chilliness, dry, cold skin, decreased sweating, fatigue, mental and physical lethargy and somnolence. They all had a B. M. R. between -20 and -30 and responded to replacement therapy as satisfactorily as did the patients with myxedema. Perhaps they should be classified as hypometabolism, but if the lowered B. M. R. was not due to a primary thyroid deficiency the cause was not evident. Blood cholesterol determinations would have been a great help in this group and it is regretted that they were not obtained.

Mrs. P. McM., aged 38, admitted May 26, 1938.

Chief Complaint: Weakness, lack of pep.

Present Illness: Had been told that infected tonsils were probably accounting for symptoms. Hair, scalp and skin dry since thyroidectomy in 1925 for toxic goiter. Poor hearing. Voice husky. Mental and physical reactions slow. Nervousness and irritability. Sterility.

Examination: Skin dry, hair dry and coarse. Breasts atrophic. Male trichosis. Husky voice.

Laboratory Data: Urine negative. R.B.C. 4,34. Hb. 92 per cent (Sahli). B. M. R. -21.

Diagnosis: Hypometabolism following thyroidectomy thirteen years previously.

Treatment: Thyroid Extract (P-D) grains 2 daily.

Progress: B. M. R. -15, 6/2/38; -11, 6/6/38; -6, 7/16/38. Maintenance dose grains 1½ daily. Mental reactions accelerated. Strength and pep normal.

Hypometabolism

Under this classification is included a heterogeneous group of cases with varying levels of lowered B. M. R. Their response to thyroid is variable and it is assumed that the mechanism of the action of thyroid is pharmacodynamic through its calorogenic function rather than physiologic as seen in myxedema.

1. Anorexia nervosa. This seems to be a definite clinical entity based on symptomatology alone. It usually occurs in asthenic, nervous, young women, occasionally in men, who have a variety of functional complaints, frequently resulting from psychic trauma. The condition is usually char-

acterized by a complete loss of appetite, frequent and unremitting vomiting, weakness and a marked loss of weight. If allowed to go untreated these people may become bedridden and resemble the profound cachexia often seen following such wasting diseases as typhoid fever. A metabolic rate in the myxedema level is frequently encountered. This is usually explained by a compensatory mechanism which in the presence of a marked reduction in intake of food automatically functions to reduce the body metabolism and thus to retard the loss of weight and strength. This low metabolism in turn increases the anorexia and further reduces digestive processes so that a vicious cycle is established. Such a state of metabolism is likewise seen in Simmond's disease, Addison's disease and other cachectic states. While there is no rationale to its administration, the judicious use of small doses of thyroid extract seems to be definitely beneficial by raising the metabolism level to normal and thus improving the appetite.

The following is the case report of such an instance believed to be in the early stages:

Mr. C. P., aged 27, admitted March 29, 1939.

Chief Complaint: Vomiting, nervousness, loss of weight for one month.

Present Illness: Never robust or had much resistance. Always nervous temperament and a nail-biter all life. Two years ago at insurance examination, told he was much underweight and "weak thyroid." Since has held more responsible position, parents and others constantly comparing him with more successful brother in same work. Long hours. Hard worker. Weight loss from 125 to 116 pounds in one month, vomiting with every meal, dry mouth, difficult chewing and swallowing, progressive weakness, anorexia, marked irritability and nervousness, insomnia, depressed, interval crying. Worked one-half day first two weeks, none since. Thirty cigarettes daily.

Family History: Mother similarly nervous all life, except more so. Frequent bouts of hysteria.

Examination: Height 72½ inches, weight 116 pounds, (average standard weight 184). Weakness 2, marked asthenic type, large frame, bones prominent. Hands and feet cold, damp. Anxious expression.

Laboratory Data: Urine negative. R.B.C. 4,80. Hb. 87 per cent (Sahli). Chest x-ray shows very narrow and elongated heart shadow. B. M. R. -11.

Diagnosis: Asthenia, Anorexia Nervosa, Hypometabolism.

Treatment: High caloric diet with refeeding after vomiting, bromides, brewers' yeast, thiamin chloride, reassurance, discontinue tobacco, vacation from work 2 months, thyroid extract (P-D) grs. 1 daily.

Progress: Weight gain 25 pounds in 5 months, better self-control, nail biting discontinued, more strength and resistance. Able to carry on work sensibly.

2. Disturbances of Catamenia. There is no reason to assume that the thyroid gland is directly responsible for disturbances of the physiology of the uterus since myxedema frequently occurs without disturbances of catamenia and conversely irregularities of menstruation more often occur without than with a lowered B. M. R.

However, the use of desiccated thyroid has proven of definite help in the treatment of menstrual irregularities. Holmes¹³ states that in his experience thyroid extract seems to produce more favorable results in a higher percentage of cases than any other single type of glandular therapy. Haines and Mussey¹⁴ reported the results of desiccated thyroid therapy in 74 cases having a low B. M. R. They found a definite improvement in 72 per cent of the cases with amenorrhea, 55 per cent with oligomenorrhea and 73 per cent with menorrhagia. About 75 per cent of the group reported improvement in their general health when the B. M. R. was raised to an average level of -4 . However, the average B. M. R. was -17.3 in those showing improvement and -22 in those not responding to thyroid therapy.

An example of the beneficial effects of thyroid in menorrhagia follows:

Mrs. B. E., aged 25, admitted Aug. 18, 1938.

Chief Complaint: Sterility, menorrhagia.

Present Illness: Onset menstruation at 13. Normal six months, then continuous for four months. Thereafter free from menstrual bleeding only for two-week intervals every two to six weeks until three years ago. Physician administered several injections of A-P-L substance of pregnancy urine at that time. The rhythm has been normal since, but the flow has been excessive 3, containing large clots. Married $1\frac{1}{2}$ years, and unable to conceive.

Marked cold intolerance and sense chilliness all life. Requires twice the amount cover as average person, warmer clothes and house than other people. Perspires very little even in the hottest weather. Skin dry and scaly, hair brittle, B. M. R. never taken.

Examination: Poorly nourished, weakness 2, pallor 2. Hair brittle and broken, skin cold and dry, slight puffiness around eyes.

Laboratory Data: Urine, trace albumin, R.B.C. 4.26, Hb. 75 per cent (Sahli), B. M. R. -27 , sella turcica negative.

Diagnosis: Menorrhagia, ovarian deficiency, hypothyroidism, 2nd degree anemia.

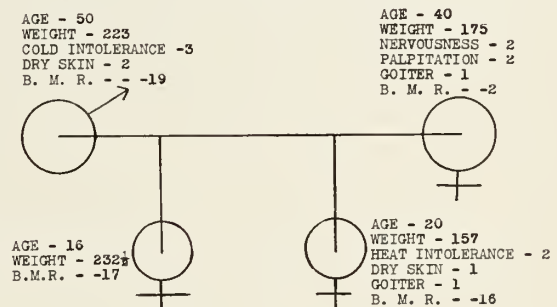
Treatment: Iron, high caloric diet, thyroid extract (P-D) grains 3 daily.

Progress: 8/22/38, muscular aching, abdominal pain, anorexia. 9/2/38 B. M. R. -10 , strength better, skin warmer, more pep, less cold intolerance, aching subsided. 9/9/38 no change in B. M. R. Thyroid increased to grains $3\frac{1}{2}$ daily. Weight gain $1\frac{1}{2}$ pounds. 9/23/38, B. M. R. normal. Thyroid grains $2\frac{1}{2}$. 10/27/38, pulse 76, weight gain $2\frac{1}{2}$ pounds, last menstrual period four days' duration and normal amount.

3. Obesity. The relation of B. M. R. to obesity has been studied by many investigators. Boothby and Sandiford¹² have reported a study of 94 cases. No characteristic change in the B. M. R. was noted.

However, we have encountered several cases of marked obesity in whom a definite lowered metabolism was present. Of 26 cases of obesity 9, or 35 per cent, showed a lowered B. M. R.; 16, or 61 per cent, a normal, and 1, or 4 per cent, an elevated B. M. R. Thyroid therapy was found definitely helpful in those patients showing a decreased metabolism. Whether the lowered rate is in part due to hypopituitarism is not known.

Low metabolism, obesity and goiter frequently are found in members of the same family. However, it is rare to see all associated in the same family as shown below.



4. Sterility. According to Means this symptom may be helped by thyroid therapy through one of the following mechanisms: (1) stimulation of ovulation, (2) increase in the local metabolism and nourishment of the uterus, and (3) inhibition of menstruation. There were 8 patients in this series with a low metabolic rate who complained of sterility. In none of these cases has thyroid been of any benefit to date.

5. Hypopituitarism. Two patients showed definite signs of this dyscrasia. One presented an enlargement of the sella turcica and erosion of the floor of the sella

by x-ray, obesity, a tendency towards male secondary sexual character, hypotrichosis of the face and pronounced oligomenorrhea. The other case is reported in detail:

Mrs. B. D., aged 29, admitted Oct. 24, 1939.

Chief Complaint: Amenorrhea, sterility.

Present Illness: Onset menstruation at 12. First three periods normal. A single period at 16, one at 23 and none since. Violent headaches 14 to 20, frontal and bi-temporal, not migraine character, relieved by epistaxis. Married 2 years, weight gain 100 to 136. Skin cold and somewhat puffy. Cold natured all life, requiring more cover and warmer clothes than the average person.

Examination: Obese 1, pulse 64, T. 93, B.P. 110 70. Breasts atrophic 2, infantile uterus 2, Skin thin and waxy.

Laboratory Data: Urine negative, R.B.C. 5.02, Hb. 82 per cent (Sahli), x-ray of sella turcica normal, B. M. R. -13, sugar tolerance: fasting 79 mg. per cent; 30 minutes after 50 Gm. glucose 153 mg. per cent; 30 minutes after second 50 Gm. glucose, 129 mg. per cent.

Diagnosis: Hypopituitary type Glandular Dyscrasia. Amenorrhea.

6. Fatigue States. Eighteen of the 41 patients having a low B. M. R. fell in this group. Many others had a somewhat similar train of symptoms but were classified under other headings because of further distinctive symptoms. The use of thyroid hormone in this group was generally disappointing, although distinctly helpful in some cases. The etiology of the low metabolic rate is doubtful. Some investigators hold that the cause is often constitutional, hereditary or frequently due to other disease processes in the body.

CONCLUSIONS

1. Symptoms suggestive of a lowered rate of metabolism are common.

2. Myxedema, if thought of, is usually easily diagnosed, and treatment, when properly administered, is probably the most gratifying of any disease encountered in medicine today.

3. Symptoms of low metabolism without edema and in the absence of a demonstrable extrathyroid cause are occasionally encountered. When accompanied by a marked reduction in B. M. R. they may respond as well as myxedema to desiccated thyroid therapy.

4. Low metabolism is most commonly due to causes other than a deficiency of thyroid hormone. However, restoration of the B. M. R. to normal, possibly through

the pharmacodynamic action of thyroid, may frequently prove a valuable adjunct to the usual methods of treatment.

5. The clinical diagnosis of hypofunction of the thyroid gland and the use of thyroid extract without B. M. R. determinations are hazardous.

BIBLIOGRAPHY

1. Gull, W. W.: On a Cretinoid State Supervening in Adult Life in Women, *Tr. Clin. Soc. Lond.* 7:180, 1874.
2. Ord, W. M.: On Myxedema, A Term Proposed to be Applied to an Essential Condition in the "Cretinoid" Affection Occasionally Observed in Middle-aged Women, *Med. Chir. Tr.* 61:57, 1878.
3. Murray, G. R.: Note on the Treatment of Myxedema by Hypodermic Injections of an Extract of the Thyroid Gland of a Sheep, *Brit. M. J.* 2:796, 1891.
4. Kendall, E. C.: The Isolation in Crystalline Form of the Compound Containing Iodine which Occurs in the Thyroid; Its Chemical Nature and Physiological Activity, *Tr. A. Am. Physicians* 30:420, 1915.
5. Harington, C. R., and Barger, G.: Chemistry of Thyroxine. III Constitution and Synthesis of Thyroxine, *Biochem. J.* 21:169, 1927.
6. Means, J. H.: The Thyroid and Its Diseases, Philadelphia, J. B. Lippincott Company, 1937, p. 578.
7. Sturgis, C. C., and Whiting, W. B.: The Treatment and Prognosis in Myxedema, *J. A. M. A.* 85:2013, 1925.
8. Conklin, S. D.: Myxedema—Spontaneous and Postoperative, *West. J. Surg.* 43:564, 1935.
9. Haines, S. F.: Personal communication to the author.
10. Lee, R. I.: Hypothyroidism: A Common Symptom, *Ann. Int. Med.* 9:1503, 1936.
11. Berkman, J. M.: Low Basal Metabolic Rate and the Use of Desiccated Thyroid, *J. A. M. A.* 106:2042, 1936.
12. DuBois, E. F.: Basal Metabolism in Health and Disease, Philadelphia, Lea & Febiger, 1936, p. 471.
13. Holmes, W. R.: Personal communication to the author.
14. Haines, S. F., and Mussey, R. D.: Certain Menstrual Disturbances Associated with Low Basal Metabolic Rates without Myxedema, *J. A. M. A.* 105:557, 1935.

DISCUSSION ON PAPER OF DR. M. V. B. TEEM

Dr. John E. Walker (Columbus): Dr. Teem's paper shows well what any physician can do by systematically studying his own cases. Careful analysis has uncovered much valuable material and shows us clearly the exact status of hypothyroidism and hypometabolism as we are apt to encounter them in Georgia. We are greatly indebted to him.

Dr. Teem has well stated that in general the diagnosis of hypothyroidism is easy but it is rather difficult to think of. This is because symptoms, such as joint complaints, or findings, such as anemia and asthenia, are apt at the very beginning to set the mind of the physician to traveling along wrong channels.

I wish to refer briefly to such a patient that was wrongly diagnosed and treated for primary heart disease for a period of several years before a correct diagnosis was established. This was a 33-year-old man whose primary complaint was general weakness. Physical examination showed a heart that was grossly enlarged and this was confirmed by x-ray examination. These findings seemed to clear up the situation and he was therefore wrongly classified as an incurable cardiac invalid. Physical examination with a more careful history and metabolism test established the diagnosis of hypothyroidism. Under proper treatment the transverse diameter of his heart diminished 2½ cm. The patient made a complete recovery and was restored as a self-supporting individual.

I have a slide that I would like to throw on the screen

which shows the condition of this man's heart before and after treatment with thyroid extract.

(Slide). The slide on this side shows the heart of the patient when he was first seen. It is obvious that the heart is greatly enlarged and this finding immediately took the mind of the physician off the consideration of any diagnosis other than that of primary heart disease. The slide on the far side shows the shrinkage in the size of the heart after he had been treated with thyroid therapy for a period of several months. This condition of enlarged heart due to hypothyroidism is encountered more frequently than it is recognized and for that reason it is important to know it as one of the instances of curable heart disease.

Dr. H. C. Sauls (Atlanta). *Dr. Teem's* paper is extremely interesting and timely. It is a suggestion to us to study further our patients in whom thyroid dysfunctions are suspected and a warning as to the indiscriminate therapy in patients with low basal metabolic readings.

There are many factors to be considered in every case falling in the classification of hypometabolism, such as the dysfunction of the glands of internal secretion, heredity, temperament, nervous influences, etc. Myxedema is responsible for only a very small per cent of patients presenting a low basal metabolic reading. As it is by the determination of the basal metabolic rate that we group these cases, it is of utmost importance that this be done under the most careful and painstaking conditions, and by one who is familiar with the many factors, both on the part of the patient, his preparation, the reaction of the patient to the test, and the mechanical condition of the apparatus, all of which may alter readings.

As pointed out by *Dr. Teem* the function of the thyroid gland was largely recognized before the end of the last century. *Kelly*, in 1891, noticed in the thyroidectomized animals that many developed various nervous manifestations, some developing convulsions. He very clearly demonstrated that the convulsive state, or tetany, developed only when the parathyroids were removed and that, with the complete removal of the thyroid gland, the condition known as myxedema developed.

While it is known that the active principle of the thyroid is thyroxin, we have no accurate means of detecting the amount of this substance in the body, but its action on cholesterol metabolism is fairly well established, and is of much value in determining the degree of thyroid dysfunction.

There is some difference of opinion among workers as to whether or not hypothyroidism, to any degree, really exists without the characteristic skin lesions, namely the dry, non-pitting, so-called edema, in which there is a mucoid infiltration in the skin and subcutaneous tissues; a condition in which thyroid therapy produces very spectacular results. There are three clinical types of hypothyroidism. First, there is the prenatal or congenital type, known as cretinism. This type is probably the most spectacular as to the results obtained when recognized early and the proper thyroid therapy is instituted and maintained. The second is the adult type or true myxedema. The third is the postoperative type. This

type was rather frequent when subtotal thyroidectomy was so popular in the treatment of heart disease, but now that this surgical procedure is rapidly being abandoned, this type of hypothyroidism will be less frequent.

In the treatment of hypometabolism, due to any cause, the patient should be kept under very close supervision, and if thyroid is used the dosage should be determined by the basal metabolic rate, pulse rate, blood pressure, and other clinical manifestations that can be detected. As mentioned before, the best results are obtained in patients with definite evidence of thyroid deficiency. Remember that thyroid extract is a very potent drug and the indiscriminate use and the "over the counter" administrations are to be condemned.

Dr. M. F. B. Teem (Marietta): I am glad that *Dr. Walker* brought out the question of changes in the heart in myxedema which is of course of primary consideration. It so happened that none of the patients in this series had any cardiac manifestations.

As *Dr. Sauls* pointed out the diagnosis of hypothyroidism is not as definite from a laboratory standpoint as we would like to have it. Only last evening *Dr. Lahey* mentioned the fact that underfunction of the thyroid gland is usually accompanied by an increase in the blood cholesterol. Unfortunately, however, this index is not very accurate for two reasons; first, the blood cholesterol varies greatly in the normal individual, and secondly, as pointed out by *Means*, of Boston, the diagnosis of myxedema is not untenable in the absence of increased cholesterol. It is evident that we need a better test of thyroid function than basal metabolism estimation which is, at best, only a very rough gauge of thyroid function.

IMPERFORATE HYMEN WITH HEMATOCOLPOS

Report of Case

GEO. A. HOLLOWAY, M.D.
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Mrs. C. H., aged 15, was brought to the clinic by her mother on Aug. 27, 1935. The patient had been married two months and was unable to have marital relations. Upon further questioning of patient it was found that she had never menstruated but had been having cramp-like lower abdominal pains every four weeks for a period of five months. The cramps lasted some four days, were rather severe and required one day in bed with sedatives.

Past History: Irrelevant. Most of the common childhood diseases but no past history of any vaginal leukorrhea.

Physical Examination: Patient well developed and well nourished white female. Temperature, 98.6 F.; pulse rate, 90; blood pressure, 120/70. Chest findings were negative.

Abdominal Examination: Respiratory movements were free and equal. There was some tenderness over the

lower abdomen with a sense of an indefinite, soft mass over the bladder region.

Pelvic Examination: Distribution of pubic hair was normal. No apparent external infection of the genitals was present and the urethra was normal. The vaginal introitus was completely occluded by a rather thick appearing soft membrane. The membrane was of the same color as the vulva and did not bulge, and could be pushed inward to some extent without pain.

Rectal Examination: A soft, fluctuating mass, about the size of a small grapefruit, could be felt in the true pelvis. The uterus could not be definitely outlined but seemed to be displaced upward and seemed a little enlarged and not particularly tender. No other masses could be felt in either adnexal region. The findings were the same after catheterization.

Laboratory Findings: Catheterized specimen of urine was negative, Kahn test was negative. White blood cells 10,500, red blood cells 4,040,000 and hemoglobin 75 per cent.

A diagnosis of imperforate hymen with hematocolpos was made and confirmed by one of the visiting staff, Dr. W. F. Shallenberger.

On Aug. 30, 1935, under a general anaesthetic, the thick hymen was completely excised and the bleeding around the edge controlled with interrupted No. 0 plain catgut. About 500 cc. of old, tarry-looking menstrual fluid was obtained. The vagina was gently cleansed with wet, aqueous metaphen sponges. The vaginal canal and cervix appeared normal on inspection and digital examination revealed apparently normal pelvic organs.

The patient was returned to the ward and after reacting was placed in Fowler's position. Dry sterile perineal pads were changed at frequent intervals and the menstrual flow gradually decreased in amount and ceased on the fifth postoperative day.

On the first postoperative day the patient had temperature of 99.6 F. but remained normal thereafter and she was dismissed on the fifth postoperative day and advised to remain in bed at home for one week.

Following her operation marital relations were normal and the menstrual periods in September and October, 1935, were normal. She reported to the obstetrical clinic on Jan. 9, 1936, about three months pregnant and delivered a normal male infant July 5, 1936.

I had never realized the importance of the correct procedure of handling this syndrome until reading Tompkins' recent article. His paper is a review of 113 cases in the literature with a report of five additional cases from the Gynecological Department of the University of Pennsylvania with the death of one of the five patients. In the 113 cases reviewed there were six deaths and nine severe pelvic infections.

Imperforate hymen is one of the most frequent causes of gynatresia of the external genitalia and usually results from developmental defects or from some inflam-

matory reaction in infancy. The hematocolpos results from the complete obstruction of the menstrual flow. This condition is most often found at puberty and is frequently diagnosed as chronic, recurrent appendicitis, tubercular peritonitis or ovarian cyst. Hence, patients are at times subjected to unnecessary laparotomies.

The most common symptoms are:

1. Amenorrhea.
2. Recurrent, cramp-like abdominal pains.
3. Disturbance of urination.

The first is seldom offered as a complaint as in the case reported. Second, recurring, cramp-like abdominal pains at monthly intervals is the most frequent and important, and thirdly, disturbances of micturition if the hematocolpos has attained enough size to exert pressure on the urethra or interferes with the normal reflex of urination. The diagnosis is readily made by inspection alone of the vulva and is confirmed by recto-abdominal examination and the finding of a soft, fluctuating mass in the pelvis.

Treatment

Complete excision (not incision) of the hymen is the method of choice in treatment. This permits rapid drainage of the old menstrual fluid. The complication to be feared is ascending infection, which often results in a pelvic inflammatory disease with a permanent sterility and a likely peritonitis if the syndrome is of long enough standing to produce a hematometra and hematosalpinx.

Anyone with surgical experience readily appreciates the careful preoperative, operative and postoperative care these patients should receive when we realize what excellent culture media old menstrual fluids offer.

Tompkins has suggested an excellent plan of treatment as follows:

1. Meticulous preoperative preparation of the vulva.
2. Complete excision of the hymen, not simple incision.
3. No vaginal examination at the time of operation.
4. After evacuation of the hematocolpos on the operating table a careful rectal examination is made to determine whether there is distension of the tubes. If there is evidence of hematosalpinx, laparotomy should be performed and the tubes

should be incised and drained, or if necessary removed.

5. A postoperative vulvar dressing of gauze soaked with mercury bichloride solution.
6. High Fowler's position to promote drainage.
7. Enough morphine to produce constipation for at least four days after operation.
8. Careful cleansing of the perineum after every evacuation.
9. At least one week of rest in bed (Fowler's position) after the temperature is normal.
10. No tub bathing or swimming and no douching until two menstrual periods have passed.
11. No vaginal examination until two menstrual periods occurred. The examination should be made with sterile precautions.

REFERENCES

1. Tompkins, P. J.: J. A. M. A. 113: 891-896 (Sept. 2,) 1939.
2. Gordon, O. A., in Curtis, A. H.: Obstetrics and Gynecology, Philadelphia, W. B. Saunders Company, 1933, Vol. 3, 635.

TUBERCULOSIS OF THE BONE

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INCIDENCE

Tuberculosis of the bones and joints is evidently on the decline. One does not see this condition very frequently in the average orthopedic practice in Georgia. There are less patients with this disease every year. This is probably due in part to eradication of tuberculous cows and better control of the milk supply. According to Dr. J. C. Norris, chairman of the Fulton County Medical Society Milk Commission, twenty-five years ago 20 per cent of the cows in the United States were tuberculous. Amberson¹ states that this has been reduced to 0.4 per cent. There were 1,533 deaths from tuberculosis in Georgia in 1939.² Of this number 11 were attributed to disease of the bones or joints; 7 involved the spine and 4 the other bones or joints. As far as the mortality statistics are concerned bone and joint tuberculosis is not a very large factor. Of the patients I have treated under the Crippled Children's program during the past two and one-half years, probably 60 in number, there have been 2 patients with tuberculosis. At least 2 other surgeons who have treated an equal number of patients have had none. These children come from

the very lowest economic stratum in the State and would be expected to have a higher percentage than any other group.

Etiology

Bone and joint tuberculosis is always secondary to the disease elsewhere in the body. The organisms are believed to be disseminated by way of the blood stream, and gain entrance by way of the mediastinal or mesenteric lymph nodes. In my experience the early cases come from families that are known to be tuberculous, or who upon investigation prove to be tuberculous. These patients are usually children. There is another group of patients who develop bone involvement along with active pulmonary tuberculosis. When there is no pulmonary activity and no history of tuberculosis in the family, skin testing the members and close associates of the patient may uncover someone with an active lesion. This is best illustrated by a child fourteen months old who developed tuberculosis of the spine. There was no known contact with any infected person. It later developed that the child's mother had active pulmonary tuberculosis, and had to be admitted to Alto for treatment.

Pathology

The epiphyseal ends of the long bones and the bodies of the vertebrae, which are composed of cancellous bone, are most frequently involved. The cortical or diaphyseal portion is infected only rarely and then it is usually secondary to the disease near the joint. The synovia may be the site of the infection.

The organisms are deposited in the bone and begin to multiply and grow. According to Key,³ there is first an area of inflammatory reaction with leukocytes. This soon disappears and is replaced by monocytes and epithelioid cells with the formation of a tubercle with its caseous center and surrounding area of lymphoid or round cells and epithelioid type of giant cells. This is surrounded by an area of inflammatory tissue in which there are more and larger blood vessels. It is in this area that the decalcification of the surrounding bone occurs. This is due to an increase in blood supply. The red bone marrow recedes and

the bone is gradually destroyed with the formation of an abscess. This follows the line of least resistance, usually ruptures into the joint cavity, infecting the joint structures and adjacent bone. There is no tendency to bone production, but the process is one of destruction. The changes in the joints in the early stages are an increase in the joint fluid and inflammatory reaction. Later the joint becomes filled with pus and caseous material from the advancing tuberculous process. If the patient does not show some resistance to the infection the abscess may burrow through the soft tissue and rupture outside with the formation of sinuses which results in secondary infection. It must be emphasized that this is usually a slow process, the speed of which varies with the resistance of the patient.

Diagnosis

The diagnosis of tuberculosis of the bone and joint is not always easy. The disease occurs most frequently in the spine; next in the hip and knee and the other weight bearing joints, and much less frequently in the joints of the upper extremities. The history is usually one of slow onset. The first sign in the spine is deformity and, in the lower extremity, a limp. One must suspect tuberculosis in any chronic joint disease. In most instances there is a single joint involved, rarely are there multiple foci. The typical picture is a joint that is very painful on attempted motion, usually with a flexion deformity. Muscle spasm is marked and there is frequently atrophy present. Every movement is guarded. There is no redness, and only slight elevation of temperature. The skin test is of value only if negative. Examination of the lungs and a diagnosis of tuberculosis elsewhere are valuable diagnostic procedures. A positive diagnosis may be made by aspirating the joint and injecting a guinea pig, and by microscopic section of tissue with positive findings. Tuberculosis of a joint may be confused with a low grade suppurative arthritis, chronic arthritis or syphilis of a joint.

Roentgen Characteristics

Roentgenograms are valuable aids in the diagnosis of tuberculosis. According to

Ferguson,⁴ the chief characteristics are effusion, atrophy, decalcification, thin joint space, destruction without productive calcifying reaction. It is essential that these be present in a chronic progressive lesion.

The effusion may break through the capsule of the joint and form a pocket in the soft issue. This is known as an ichor pocket and may become calcified.

Atrophy is usually present in the soft tissues early and appears in the bone in the late stages. This may be underdevelopment of the bone due to disuse.

Decalcification is usually a very prominent feature of bone tuberculosis and may be local or general. The local area of decalcification is due to the circulatory changes which occur with the development of the tubercle. The general decalcification is probably due to disuse.

Thinning of the joint space usually occurs fairly early, considerably before the onset of bone destruction. Bone destruction is a later feature. It may occur as erosion of the joint surface, as a cavitation of joint surface or as an abscess cavity in the bone. Occasionally sequestra occur during the destruction process.

Re-calcification and repair are evidence of healing taking place.

Prognosis

The prognosis depends on the general physical condition of the patient. The best rules I have seen upon which to base a prognosis are given by Mather Cleveland,⁵ who divides the patients into four groups.

1. Patients with no evidence of pulmonary tuberculosis. In this group is the best chance for arresting the disease.

2. Patients with pulmonary tuberculosis and negative sputum, but with no metastatic spread to other organs. In this group there is also a good chance for arresting the disease.

3. Patients with pulmonary tuberculosis and positive sputum. This group has about 50 per cent chance for a cure.

4. Patients with pulmonary tuberculosis and negative sputum and with metastatic spread to other organs have about 30 per cent chance for cure.

Treatment

The aim of treatment in bone and joint tuberculosis is arrest of the disease with as little deformity as possible. Since disease is always secondary to infection elsewhere in the body, the general principles that apply to the treatment of pulmonary tuberculosis are equally as important as the local treatment. (Here I would like to ask a question to be answered in the discussion; why is it so hard to get a patient with bone tuberculosis into a tuberculosis sanatorium)? I shall attempt to discuss only the local treatment. This will vary largely with the individual case. Complete and prolonged rest is necessary for the arrest of a tuberculous joint. The best and surest way to secure this rest is by bony fusion of the joint. This is the only method by which complete absence of motion may be obtained. This is usually accomplished by surgical fusion of the joint. It is generally conceded that this is the best method of treatment of bone and joint tuberculosis in adults.

In children we are sometimes hesitant about doing an operation that may interfere with growth. However, the disease may interfere with growth and one must adapt the treatment to the conditions present. If sinuses are present, the secondary infection is the cause of a large number of failures. Usually in the presence of sinuses it is a better plan to immobilize the joint by means of casts or other apparatus until some sign of healing takes place.

In the operative procedure it is better to do an extra-articular fusion where possible. If not, we do not hesitate to operate through the infected field.

In conclusion I would like to present a case of tuberculosis of the hip in a three-year-old child and show a few slides which show the development of the disease and the healing process as it appears in this patient.

Report of Case

B. J. P., aged 3, first seen at Grady Hospital February, 1936.

Chief complaint: Limp on right leg.

Present illness: Patient had injury 3 months ago, had pain for a few days and then was all right. One week before admission patient fell to the floor and since has had a limp on the right lower extremity.

Family history: Mother and father both tuberculous since 1928. One brother had tuberculosis and was in Battle Hill from 1936 to 1938, two brothers healthy and married, and one brother, 3 years old, healthy; one sister died of pneumonia at 1 year old, 1 aunt died with tuberculosis in 1917.

Past history: Healthy until onset of present illness.

On examination, thin, under-developed child 3 years of age who walked with a limp on right side. Examination showed muscle spasm about the right hip. Motions of the hip were painful and a slight flexion deformity was evident. There was a slight suggestion of swelling about this hip, also on palpation the impression was that there was a fullness about the hip. She was admitted to the hospital on February 24 at which time an x-ray of the chest was made; skin test was positive with first dilution. The child was kept at rest in bed for several days under observation. Symptoms did not subside so she was placed in a cast and allowed to return to her home. The cast was changed in about one month's time. At this time the signs were less than at the first examination, but were still present. The child did not seem to be doing well so she was kept in the hospital. Later she began to show some improvement. It was our impression that the home conditions were poor and that she did not get the proper nourishment. She remained in the hospital for a period of 3 or 4 months and was then allowed to go home. She was observed until 1937; she wore a cast most of the time.

We were hesitant about operating upon this patient due to the fact that we feared an arrest of growth at the proximal epiphysis. However, destruction became so great that it was necessary to do a fusion which was done in the early part of 1938.

Healing did not begin to take place for approximately 1 year. At that time we lost track of this patient and did not see her again until February, 1940. At that time x-ray films showed that the disease had become arrested, abscess had calcified and that bony fusion was taking place.

Examination a few days ago showed the child walks with about one inch shortening of the right hip, with underdevelopment of one-half of the pelvis and about 20 degrees flexion and slight abduction. Clinically this hip is solidly fused. The patient looks well, is well nourished and has been able to start to school. I consider this an arrested case of tuberculosis of the right hip.

REFERENCES

1. Amberson, J. Burns, Jr.: Pathogenesis and Medical Treatment of Tuberculosis of the Vertebrae; *J. Bone & Joint Surg.* 22:807, No. 3 (July) 1940.
2. Statistics furnished by Georgia State Board of Health.
3. Key, J. Albert: Pathology of Tuberculosis of the Spine, *J. Bone & Joint Surg.* 22:799, No. 3 (July) 1940.
4. Ferguson, Albert B.: Extremities and Spine, New York, Paul B. Hoeber, Inc., 1939, Vol. 17, p. 305.
5. Cleveland, Mather: Treatment of Tuberculosis of the Spine, *J. Bone & Joint Surg.* 22:824 No. 3 (July) 1940.

The examination of familial contacts of tuberculin-positive children between the ages of six months and six years, may be a valuable case-finding procedure, since the opportunity for tuberculous infection among very young children is limited to the immediate family circle. Paul Phelps, M.D., et al, *Jour. Pediatrics*, Oct. 1940.

A LAYMAN LOOKS AT THE FAMILY DOCTOR

MISS HELEN ESTES
Gainesville

The science of medicine has progressed more during the past fifty years than in the preceding ages since the coming of man. While this great progress was being made in the science of medicine, equal progress was made in the other sciences. The American public is daily confronted, in industry, business and home, with changes designed to increase efficiency or comfort. Living in such an age, we cannot blame the laity for applying the modern yardstick to the medical profession. More people are reading now, and, due in large part to publicity given in the lay press to the proceedings of all scientific meetings, it is possible for them to read more about medicine than heretofore. This attitude of the general public places upon the practitioner the responsibility of keeping up with the continuous advances of medicine.

Whether it be for the relief of pain or for improvement in function, it is the search for treatment that brings most patients to the physician. But before appropriate treatment can be prescribed, an accurate diagnosis must be made. Thus, the general practitioner of today must possess keen diagnostic ability. By the use of adequate time, properly attuned senses, and logical thinking, the general practitioner can make a proper working diagnosis in the vast majority of cases.

Of all the problems that may concern the average family, there is probably not one in which the decision is of more ultimate importance for the health and happiness of the family than the choice of a physician.

In the old days the family loved; indeed, almost worshiped, the family doctor. He was their guide in health as well as in sickness. He alone, of all the community, knew the family secrets, and he could be depended on to keep the faith. True, his remedies were occasionally harsh and his diagnoses

largely guesswork, but his record of cures is surprising. He was especially known for his ability to practice the art of scientific observation, using to the utmost his five senses.

In choosing a physician it is well to have the answers to certain questions which might be called "an aptitude test" for the family doctor. First, is he a graduate of a recognized medical school that requires at least four years of thorough training? There was a time when there were more medical schools in the United States than in all the rest of the world. We had almost 200 medical schools in this country around 1900. Today there are less than 80 medical colleges in the United States, but the vast majority of them are rated as Class A, which signifies a certain definite number of full-time teachers, and with a well established graded curriculum. Yes, the first point which the layman must consider is the training of his prospective doctor.

In choosing a physician another point to consider is: Is the doctor licensed to practice medicine in the state in which he has his office? The majority of the states conduct regular examinations for a license to practice, these examinations being given by a group of physicians known as the State Board of Medical Examiners and Licensure. Before a physician can get a license he must usually show evidence of his graduation and also undergo a written and practical examination in the basic medical subjects. He must also present certificates of good moral character from at least two physicians who know him.

A third question to be asked is this: Has the doctor had actual training as an intern in a hospital? Or has he been associated with a practicing physician long enough to obtain practical education in medicine? Has he at the time of consultation a direct connection with a good hospital? The appointment of a physician to the staff of a good hospital indicates that he has been passed upon according to his qualifications, and found competent.

Fourth: Is the doctor a member of his county medical society, the state medical society, the American Medical Association,

Read before the Ninth District Medical Society, Winder, March 20, 1940.

and other recognized, organized bodies of physicians? While membership in a medical society is not an absolute guarantee of honesty or of good faith, the physician who belongs to such a society is subject to the criticism of his colleagues and subject also to being called before special committees to explain actions that are not considered ethical or satisfactory. A patient is much better off with a doctor who belongs to a recognized medical society than in the hands of one who is utterly independent of such organizational control.

An old, well known physician was once asked how to choose a doctor. His answer was: "Well, there are three kinds of doctors. First, there is the doctor who makes a mistake and doesn't know when he does. He's a fool. Second, there is the doctor who makes a mistake, and then finds out but won't admit it. He's a liar. And third, there's the doctor who makes a mistake, finds it out, and admits it. And that's my doctor."

Looked upon far too often as "just a doctor" the general practitioner for years has been the prime guardian of individual health. Since the health of the individual is the basis of community and national health, the importance of the role of the general practitioner immediately makes itself evident. I like to use the term general practitioner interchangeably because no graduate of medicine can qualify as a family physician unless he is a general practitioner. In spite of the birth and robust growth of medicine in specialization the family physician still remains the most valuable man of medicine to the individual, the family, the community and the nation.

It is most unfortunate that so many physicians of this group have fallen below the standards of family physicians of past years. Formerly the general practitioner was the sole counsellor of the family on all matters of health, but today many people are making the grave mistake of wandering away from this practice. It is sanest, safest and best to let the family physician guide and instruct in everything that pertains to the health of all of the members of the family. Particularly should he determine

the need for specialism, for in most instances he is best qualified to select the specialist.

One often wonders if the physician's bedside manner may not in days of yore have been as important to the patient as the science of the present day. There was reassurance in those old family physicians who stroked one's forehead and sat on the side of the bed to talk things over heart to heart. They probably never kept a history. Their knowledge of medicine was, compared with that of many a modern physician, slight. But they made their patients feel that it really mattered whether they lived or not. And their rugged, hearty, personally-reassuring interest was a long step forward in the right treatment of the sick man whose world was bounded by four walls and peopled only by himself and his worries.

I am reminded of many country doctors because of a remarkable address which a very great doctor of New York, Walter T. Dannreuther, a man of international fame, made recently to the Medical Society of the County of New York. Dr. Dannreuther, possessed of all that modern medical science can give a great practitioner, laments the passing of the wise, benevolent, hard-working family doctor—he who was without the urge for quick riches.

And he tells us bluntly that if the present trend continues—the disproportionate trend toward specialization, instead of the production of doctors better qualified to treat sick people—we are going to suffer for it. The best medical center that any individual can have, says Dr. Dannreuther, is his family doctor's office, and it is better and much more important for the physician to know all about his patient than it is for him to be an expert in the diagnosis and treatment of every disease. More understanding of his patients and less reference to specialists is Dr. Dannreuther's emphatic advice. It is good to hear such common sense and humanity from a great physician.

While a doctor is not only a medical adviser, he is counsellor on many other phases of life relating to the profession, and is expected to be informed on far more subjects than the doctor of a generation ago.

The modern doctor must read not only his medical journals and technical reports, but if he expects to be fully equipped to answer his patients' inquiries and correct answers given, he must know something about the media that is apt to influence them. But, just as the family doctor is expected to know so much more than his forbears, likewise his patients are wiser than a generation ago. Therefore, it seems to me that one of the ways for him to know, and to correctly answer, what his patients ask him, is to read such current magazines of general interest as the *Saturday Evening Post*, especially *Time Magazine*, medical section; *Collier's*, *Readers' Digest*, and the *American Magazine*; but what may be more important, the women's magazines, such as *Ladies' Home Journal* health section, and others. I don't expect you to read all of these by any means, but it may be a way of informing yourselves on some questions both men and women may ask.

If the doctor gives only vague answers to a patient's questions generated by reading these magazines, the patient is likely to think the doctor is a back number.

There is another matter that needs the attention of every medical man, storekeeper, and every man who deals with the public. Strangely enough, it was not any one of these who realized the value of appearances first, but the smart, attractive and modern filling station led the way! Standards of cleanliness in person, office and store have been set high, and women especially are quick to notice any delinquencies.

Doctors must also realize there is a younger generation taught far more about hygiene and medicine in high schools and colleges than their parents ever knew, and they are rapidly becoming more intelligent patients than doctors have ever tried to deal with before.

So it seems to me that the physician today, to be successful, must not only possess all the qualities that have endeared him to the family life of America, but must be constantly fortifying himself with the material his patients read, maintain contact with the books on hygiene which the pupils

study, have well equipped, spotless offices and, above all things, a well groomed, neat appearance himself.

So to the family doctor we offer this closing toast: The family doctor knows almost as much about the social order as the sociologist; almost as much about the mind as the psychologist; as much about the subtle art of counselling as the priest. He refuses to commercialize his profession and declines to tear his specialism out of the living texture of the medical fabric. He is able to distinguish between Hippocratic ethics and hypocritical etiquette.

ESSENTIALS OF A HEALTHFUL HOME ENVIRONMENT

The United States Public Health Service suggests ten essentials of a healthful home environment:

1. A pure and sufficient water supply.
2. A safe milk and food supply.
3. Sanitary refuse and sewage disposal.
4. Sufficient ventilation, heat, and light.
5. Space enough for ordinary family demands.
6. Absence of excessive dampness.
7. Screening against flies and mosquitoes.
8. Protection against other insects and rodents.
9. Protection against fire hazards and other accident risks.
10. Adequate play space and sunshine for children.

"Wherever there is poor housing we find not one, but multiple problems, all of which must be dealt with if we are to safeguard the health of the people and bring about community betterment; and this not as a charity but as the birthright of everyone in our Democracy," according to Miss Mary J. Dunn, Public Health Nursing Consultant of the Public Health Service. (Public Health Reports Vol. 55, No. 42).

A healthful environment is interpreted by Miss Dunn as one affording freedom from disease and the prevention of premature death, and is associated with comfort, decency, convenience, and even joy in the daily routine. It is then that housing takes on far-reaching public health significance.

THE PRESIDENT'S PAGE

THROMBOPHLEBITIS

Thrombophlebitis is a common condition following certain diseases or operations. On account of its occasional fatal outcome and almost always prolonged period of disability, sometimes lasting weeks and occasionally the edema lasting for life, it should interest all physicians.

Ochsner gives us a newer concept of the cause for and the pathologic changes of this condition, and on these bases a treatment that gives far more benefit and hope of early cure than does any previous method.

Our idea heretofore has been that the cause of thrombophlebitis was a clot in a vein, thus occluding the return flow of blood and causing the edema of the extremity. If this were the only pathologic change found the leg, if the clot were in the femoral vein as it most frequently is, would be swollen, warm, and blue. On the contrary the leg is swollen, cold, and pale or white—the phlegmasia alba dolens of classic description.

This phlegmasia alba dolens is brought about by a vasospasm of both the arteries and the veins, in which instance less arterial blood gets into the extremity thus lowering the peripheral blood pressure, reducing the temperature and lessening the arterial pulsations which pulsations are very important in bringing about the flow of lymph.

As is well known, thrombophlebitis most frequently occurs in the left femoral vein following an operation or some prolonged sickness in which the patient has been in bed for sometime.

Our treatment in the past has been of very little value, consisting of elevation of extremities, heat and bandages. Leeches, or the extract from leeches—heparin—has been of some value, especially in the prevention of the formation of thrombi. Despite all of these methods most of these patients spend weeks of invalidism before the swelling goes down. Then, on getting up, the swelling returns for sometime and occasionally this swelling remains for life.

Ochsner's treatment is based on Leriche's earlier work in which he attributes this con-



dition not only to a clot in the vein but also to vasospasm of both the arteries and veins. This vasospasm is overcome by blocking the lumbar sympathetic ganglions—first, second, third, and fourth—by novocain injections at repeated intervals, thus restoring the normal vascularity within a short period of time.

This restoration of the normal vascularity overcomes the tissue anoxia and the diminished arterial pulsation, which are the principal factors in the production of edema in thrombophlebitis. This is shown clinically by the fact that immediately after the injection of the ganglions with novocain the pain is relieved, the foot becomes warm, and within a short time the swelling subsides. In my experience, after four such injections at forty-eight hour intervals, the swelling, pain, etc., were relieved and the patients were able to get about, practically well, after fourteen days; whereas, under the old regime, it was weeks and weeks before the patient was able to get around and sometimes he was never entirely relieved of the swelling.

Ochsner's technic is given fully in *The Journal of the American Medical Association*, volume 114, number 2, Jan. 13, 1940, page 117. It can be carried out very easily, one needing only four spinal needles, some novocain, and a knowledge of the anatomy of the vertebral column. This method should be more widely used by the profession than it is at the present time.

J. C. PATTERSON, M.D.

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**HEALTH AND MEDICAL FACILITIES
BEING MOBILIZED**

Subcommittees on medical education, hospitals, industrial medicine, industry, nursing, and Negro health have been announced by the Health and Medical Committee of the Council of National Defense. The general committee, headed by Dr. Irvin Abell of Louisville, Kentucky, former President of the American Medical Association, was appointed by President Roosevelt on September 19 to survey and coordinate the medical resources of the country in the interests of national defense.

Announcement of the subcommittees was made by Dr. Abell from his office at the Public Health Service Administration Building in Washington. Dr. C. Sidney Burwell, Dean, Harvard Medical School, Boston, was named chairman of the subcommittee on medical education. Other members of this group are Dr. L. R. Chandler, Stanford University Hospital, San Francisco; Dr. Harold S. Diehl, Dean of the School of Medicine, University of Minnesota; Dr. Willard C. Rappleye, Commissioner of Hospitals of the City of New York; and Dr. John H. Musser of the Tulane Medical School, New Orleans.

The subcommittee on hospitals includes Dr. Winford H. Smith, Director of Johns Hopkins Hospital, Baltimore, Chairman; the Rev. Alphonse M. Schwitalla, President, Catholic Hospital Association of United States and Canada, St. Louis; Dr. Malcolm T. MacEachern, Associate Director of American College of Surgeons, Chicago; Dr. Claude W. Munger, Chairman of the Defense Committee of the American Hospital Association, New York; and Dr. Nathaniel W. Faxon, Superintendent of the Massachusetts General Hospital, Boston.

The subcommittee on industrial medicine was set up with Dr. Clarence D. Selby, Medical Consultant of General Motors Cor-

poration, Detroit, as Chairman. Other members of this subcommittee included Professor Philip Drinker, Harvard School of Public Health, Boston; Dr. E. C. Holmblad, Chicago; Dr. George M. Smith, Yale University Medical School, New Haven; Dr. Lloyd Noland, Chief Surgeon, Tennessee Coal, Iron, and Railroad Company, Fairfield, Alabama; Dr. William P. Yant, Mine Safety Appliance Company, Pittsburgh; and Dr. A. J. Lanza of the Metropolitan Life Insurance Company, New York.

A subcommittee on dentistry was named with the following members: Dr. C. Willard Camalier, Washington, D. C., former President of the American Dental Association, Chairman; Dr. John T. O'Rourke, Dean of the School of Dentistry, University of Louisville; Dr. Leroy M. S. Miner, Dean of the Harvard University Dental School, Boston; Dr. Frederick B. Noyes of Chicago; and Dr. Guy S. Millbury of San Francisco, former Dean of the Dental School of the University of California.

Miss Mary Beard, Director of Nursing of the American Red Cross, was named Chairman of a subcommittee on nursing and Dr. M. S. Bousfield of the Julius Rosenwald Fund, Chicago, will head a subcommittee on Negro health.

In announcing these subcommittees, Dr. Abell stated that these subcommittees would assist the Defense Council's Medical Committee in coordinating health and medical activities and in "mobilizing the medical resources of the nation for national defense."

Other members of the Health and Medical Committee on national defense as appointed by the President and the National Defense Council are Major General James C. Magee, Surgeon General of the Army; Rear Admiral Ross T. McIntyre, Surgeon General of the Navy; Dr. Thomas Parran, Surgeon General of the United States Public Health Service; and Dr. Lewis H. Weed, Chairman of the Division of Medical Sciences of the National Research Council.

The general committee has already had two meetings and in addition to setting up its various subcommittees, has considered the need for developing research projects

dealing with special problems of military medicine and hygiene. Examples of such special problems are: finding better methods of treatment of war wounds, exploring the most modern usages of recently discovered chemicals in the treatment and prevention of disease, problems of aviation medicine, and the most effective measures for the control of the venereal diseases.

The committee is also concerned with the necessity for providing health services in areas surrounding military camps and cantonments, and with the health and medical problems resulting from greatly expanded industrial development in certain regions of the country.

The committee hopes to find ways and means of providing adequate medical facilities and personnel, including hospitals, physicians and surgeons, dentists, and nurses for the armed forces of the nation without the serious disruption of these essential services on the home front. It is enlisting the services and coordinating the efforts of both governmental and private agencies in building up the health and medical facilities of the nation as part of the present peacetime mobilization.

THE DOCTOR AND HIS COUNTRY'S DEFENSE

The most glorious heritage of the profession is the tradition of noble service and heroic action whenever the time came for defense of our country. Financial and physical sacrifices have been counted as naught when duty called. This has ever been true and we pray that it will ever be thus.

Organized medicine had endeavored in every way to prepare for national medical defense, even before Congress had passed the conscription law, and is endeavoring in many ways now to assist the administration in many of the details in organization of draft boards, medical advisory boards and induction boards. It is also planning short courses of intensive training of medical personnel for active service in the armed forces, as well as coordination of extensive hospital services to possible needs in complete preparedness.

Anticipating the part the profession as a whole would play in complete preparedness for defense The Committee on Medical Preparedness of the American Medical Association some months ago forwarded to every physician throughout the nation a questionnaire on which he was to record his qualifications. To the shame of many of us the percentage of unreturned questionnaires in some states runs as high as 50 per cent. We cannot but believe that this is due in many instances to the aversion some physicians have to correspondence, report making and routine of this character, and have possibly overlooked the importance of the communication. Certainly it cannot be that any of the profession are shamefully refusing to offer themselves for any service for which they are qualified either afield or at home. If you have overlooked your questionnaire, fill it out and mail immediately.

There is no room in the profession for preparedness profiteers. Plans are being formulated to protect all doctors in active service. The New York plan, explained by Dr. Kopetzky as the "Bower Plan" of substitute service for the absent doctors provides that there shall be no loss to the men in service. Only the unethical and unscrupulous would take advantage, as only that kind did during the first World War.

There will be those of us who, as in the days of 1917-1919, were compelled by the proper authorities to remain at home, even in the event of war, because of essential work assigned. To many thus engaged at that time our orders were the proof of our service, certificates signed by General E. H. Crowder, countersigned by then Governor H. M. Dorsey, for service on draft and advisory boards; Volunteer Medical Service Corps Certificates, and other professional services evidenced the desire to do all we could.

Aside from professional services many served as Fuel Administration Chairmen and Committeemen; on War Camp Community Service Committees, and dozens of other essential activities of defense; often neglecting our private practice in order to do everything possible to win the war.

Men, offer yourselves. Let there be no laggards. Let none be called upon who does not answer promptly and gladly, and according to his ability and opportunity for service to your land and my land. God Bless America! God inspire the American physician!

J. W. SIMMONS, M.D.

CANCER

"Malignant tumors, however diagnosed with difficulty or classified with uncertainty, are among the oldest known afflictions of civilized mankind." (F. L. Hoffman).

About the time the Israelites were driven out of Egypt (1500 B.C.) a medical treatise in which cancer was described was written on a papyrus roll destined to be hidden away until found by Georg Ebers in 1875 A.D. Again (520 B.C.), about the time the prophet Daniel was cast into the den of lions in Babylon, Democedes, a Greek physician, cured Atossa, the wife of Darius the Great, of a cancer of the breast. While Pericles (430 B.C.) was endeavoring to weld the Greek city-states into a united empire, Hippocrates cured a skin cancer with a cautery. Four hundred years later when Caesar Augustus was assembling the people of his vast empire to their native towns and provinces for registration and taxation, the Roman Celsus was classifying cancer and recommending surgery as a rational treatment. Cato took issue with him and recommended powdered charcoal.

Galen (131 to 201 A.D.), the last of the great physicians of antiquity, contributed little or nothing to the subject, but held with his predecessors that cancer was caused by a disproportion of the four humors of which the body was believed to be composed. Leonides, a product of the great Alexandrian University and perhaps a contemporary of Galen, treated cancer by cutting well into healthy tissue and using a cautery to control hemorrhage, thereby approaching nearer to modern technic than any one of his age or preceding ages.

Space will not permit a further discussion of the history of cancer except to say that, after the death of Galen, no advance was made until early in the nineteenth cen-

tury when the cellular theory of the composition of animal and vegetable matter was proven. Then the scientific study of tumors began in earnest and a sharp line of demarcation between benign and malignant neoplasms was laid out.

At the present time the nature of malignant tumors is well understood. We know that the body cells undergo reversion changes, assume a young or embryonic type, lose their relation to the laws of nature and become wild. They cease to perform their normal function and grow into a lawless mass, from the periphery of which cells infiltrate the surrounding tissues; then, growing along the line of least resistance, they spread to remote parts of the body and set up new colonies. These, after a time, repeat the example of the parent lesion.

There are two essential factors in the development of cancer:

(1) A susceptibility of the whole organism or of some organ or part of the body; i.e., the stomach, breast, etc.

(2) Long continued irritation by an extrinsic or intrinsic carcinogenic agent exert a selective action (a) as aniline dyes on the mucous membrane of the bladder or tobacco on the buccal mucosa, the larynx or bronchial tree; (b) possibly some carcinogenic agent produced during cell metabolism and exerting a selective action on certain susceptible organs and parts of the body. This latter theory has not yet been proven. In either case, if there is a high degree of immunity, cancer will not develop; on the other hand, where there is susceptibility cancer occurs, especially as the tissues begin to undergo involution changes during the middle period of life.

We insist on early diagnosis as the first and greatest aid to permanent cure of cancer. In order to accomplish this we must know when and where the foe is most likely to attack. We must keep in mind the age incidence and frequency of occurrence in each and every organ and part of the body, also the infiltration process and the course of metastatic channels in the drainage area of every possible site.

No one has ever seen the birth of a can-

cer nor the beginning of metastasis; therefore, every suspicious lesion in one past forty years of age should be considered cancer until proven otherwise, and every available means of diagnosis and treatment should be used at the earliest possible moment.

Early cancer, if adequately treated, can be cured in 95 per cent of cases, just as malaria and syphilis can be cured when treated properly in the early stages. The cancer cells must be completely eradicated or destroyed. The only remedies now at our command are: surgical removal, destruction by cautery, coagulation or fulguration, and irradiation by x-ray or radium.

J. L. CAMPBELL, M.D.

MEDICAL STANDARDS NOW PROVABLE ONLY BY PHYSICIANS

The courts of most of the states have for years held that only experts, that is, physicians and surgeons, were competent witnesses in malpractice suits to prove the proper method of diagnosis or treatment. In Georgia no such definite and fair rule had been laid down until Oct. 30, 1940, when Judge Hugh J. MacIntyre of the Court of Appeals of Georgia in a case brought by a Mrs. Pilgrim against two physicians made it clear that henceforth Georgia courts and juries will not be permitted to adjudge a physician guilty of malpractice or negligence in the diagnosis or treatment of a patient in the absence of proof by physicians and surgeons showing the proper method of diagnosis or treatment, and other proof showing that the physician failed to follow the proper method and also that the injury complained of is the result of such failure.

Physicians expect to be required to follow the recognized and standard method of diagnosis and treatment, but they do object to the former custom of permitting lay witnesses and courts and juries who are also laymen to set up and adopt arbitrary standards in technical and scientific fields about which they are not qualified to speak.

In the Pilgrim case, the court said that "a patient is entitled to a thorough and careful examination such as the condition of

the patient and the attending circumstances will permit, with such diligence and method of diagnosis for discovering the nature of the ailment as are usually approved and practiced under similar circumstances by members of the profession in good standing." It is gratifying that the court also said, "what is the proper method of diagnosing (or treating) a case is a medical question to be testified to by physicians as expert witnesses. Laymen, even jurors and courts, are not permitted to say what is the proper method of diagnosing a case for discovering the nature of an ailment (or of treating a case). However, the court and the jury must have a standard measure which they are to use in measuring the acts of the doctor in determining whether he exercised a reasonable degree of care and skill. They are not permitted to set up and use any arbitrary or artificial standard of measurement that a jury may wish to apply. The proper standard of measurement is to be established by testimony of physicians; for it is a medical question."

It is reassuring to the profession to see that our courts recognize that doctors are human and are not supernatural and are not expected to guarantee good results and that when bad results follow, as sometimes they necessarily do, doctors cannot be mulcted in damages because laymen may think that they erred in the method of diagnosis or treatment.

GROVER MIDDLEBROOKS,
Attorney-at-Law.

HEAD NOTES COURT OF APPEALS OF GEORGIA

28481. Pilgrim vs Landham et al. Action for damages; from Fulton superior court—Judge Humphries.

MacIntyre, J. Relative to a diagnosis by a doctor for discovering the nature of an ailment, the general rule of law is that a patient is entitled to a thorough and careful examination such as the condition of the patient and the attending circumstances will permit, with such diligence and method of diagnosis for discovering the nature of the ailment as are usually approved and practiced under similar circumstances by members of his profession in good standing.

2. Where a family physician has diagnosed the case and given as his opinion that the patient is suffering from a tumor and desires an operation or treatment by an expert, the expert has the right to rely upon the diagnosis of the family physician, and, in the absence of

anything warranting a contrary conclusion, to perform the operation or give treatment.

3. What is the proper method of diagnosing a case is a medical question to be testified to by physicians as expert witnesses. Laymen, even jurors and courts, are not permitted to say what is the proper method of diagnosing a case for discovering the nature of an ailment. Results of the diagnosis and treatment, if so pronounced as to become apparent, as where a leg or limb which has been broken is shorter than the other after diagnosis and treatment, may be testified to by any one. *James vs Grigsby (Kansas)*, 220 Pac. 267. And where, measured by the method shown by medical witnesses to be negligence and the evidence, a bad result is shown, it is the province of the jury to say whether the result was caused by the negligence.

4. However, the court and the jury must have a standard measure which they are to use in measuring the acts of the doctor in determining whether he exercised a reasonable degree of care and skill. They are not permitted to set up and use any arbitrary or artificial standard of measurement that a jury may wish to apply. The proper standard of measurement is to be established by testimony of physicians; for it is a medical question.

5. The case here was brought in Fulton County, Georgia, against Dr. Landham, a resident of that county, and Dr. Hamilton, a resident of Douglas County; and the court, having nonsuited the case as to Dr. Landham, did not err, on motion by Dr. Hamilton, in dismissing the suit as to him, for lack of jurisdiction.

Judgment affirmed. October 30th, 1940.

Mozley & Combs, Burrell & Dillard, for plaintiff.

Bryan, Middlebrooks & Carter, for defendants.

—Fulton County Daily Report, Atlanta, October 30, 1940.

POSTPARTUM CARE

Quite all physicians and many mothers have been educated to the importance of prenatal care. Not nearly so widespread is the appreciation of postpartum care, common neglect of which allows development of many later gynecologic disorders. It may be said that childbirth should have little deleterious effects upon a woman's health and that she should feel as well afterwards as before. To insure this, however, a few simple rules of postpartum care should be followed. This is an outline which may be used to advantage.

At about the twelfth day postpartum, a vaginal examination is made to ascertain the following conditions: (1) repair and relaxation of the perineum, and (2) size and position of the fundus, which should be involuted to about medium orange size and it should be anteverted with the cervix back. If it is retroverted a No. 2 or possibly No. 3 Hodge pessary may be inserted

to hold it anteriorward during the latter part of involution which ought to be complete at six weeks. Between these two periods, 12 days to six weeks, it is wise to prescribe hot vinegar douches (5 tablespoonfuls to a bag of water) two or three times daily. For the best result the patient should lie down and the douche should be taken slowly. The almost universal outcome is improved uterine involution; lessening of discharge and hemorrhage and, mainly due to the vinegar, a rapid return of the vaginal mucosa to normal.

At six weeks (end of involution period) a second vaginal examination is imperative. This reveals extent and degree of involution. The perineum by this time should be found healed; the cervix small, conical, high and back in the vagina and, from side-to-side, freely movable over a distance of 1½ to 2 inches without causing pain. The uterosacral ligaments ought to be found not thickened or tender on palpation. There should be no lower broad ligament fixation or tenderness. The cervix should be found not fixed to either side. The fundus should be small (unusually so if the mother nurses the infant). Like the cervix it should be freely mobile in all directions and it should be anteverted.

The most common lesion found and one that demands immediate cure is cervical erosion. This lesion is viewed by the vaginal speculum, use of which at this examination is essential. The simplest method of cure of erosion and one of the best is cauterization with the red hot wire. Very light cauterization of the whole erosion tissue is better, safer and less liable to infection than deeper. Light cauterization should be repeated five days after each menstrual period until eradication is accomplished. The incidence of postpartum lesion is far less since introduction of vinegar in place of soda in the hot douche. Erosion gives rise to vaginal discharge and becomes a focus of infection to the lower broad ligaments with the attendant train of symptoms, pelvic pain, sacral backache, tiredness and dragging sensation. Furthermore, these patients are more apt to develop late hypermenorrhea, and cervical erosion may pos-

sibly be one of the etiologic factors in carcinoma of the servix.

RICHARD TORPIN, M.D.

SCIENTIFIC PROGRAM OF STATE MEDICAL ASSOCIATION

Plans are being made for the next annual session of the Medical Association of Georgia, which will be held in Macon May 13-16, 1941.

Members desiring to appear on the scientific program should communicate with Dr. Glenville Giddings, chairman of the Committee on Scientific Work, 478 Peachtree Street, N. E., Atlanta.

REPRINTS FOR ARMY MEDICAL LIBRARY

The Surgeon General, War Department, Army Medical Library, Washington, D. C., requests copies of all reprints our members may have made. When you have reprints made of any article published in *THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA*, send copy to the Army Medical Library, Washington, D. C. The reprints will be placed in a special collection catalogued and thus form a ready bibliography of the work of any given writer and a valuable supplementary source of material when the volume of the original publication is temporarily unavailable at the bindery or on loan.

COURSES IN VENEREAL DISEASES

A course designed to bring to medical practitioners the latest available information about venereal diseases is to be presented at the University of Georgia School of Medicine. It is sponsored by the Georgia Department of Public Health in cooperation with the U. S. Public Health Service and the Board of Regents of the University System.

Didactic and clinical material concerning the five venereal diseases will be presented by members of the staff.

The syphilis clinic—Dr. John W. Brittingham and staff.

Syphilis in obstetrics—Dr. Richard Torpin and staff.

Syphilis in pediatrics—Dr. Robert C. McGahee and associates.

Medical aspects of syphilis—Dr. Virgil P. Sydenstricker and staff.

Gonorrhea—Dr. Jay Zeb McDaniel and associates.

Newer venereal diseases—Dr. Robert B. Greenblatt.

Sero-diagnosis—Dr. Everett S. Sanderson.

Each course will be two consecutive weeks in length. The first course will begin on November 18 and close on November 30; the second course will begin on December 2 and end on December 14; and the third course will begin on January 6 and end on January 13.

There is no tuition fee. To defray expenses while in Augusta, each physician completing the course will be paid an honorarium of \$50.00.

MIGRAINE ISN'T DUE TO LIVER DISEASE

Disease of the liver and its ducts, commonly blamed by patients with migraine as a cause of their distress, is not responsible for this condition and may even have a beneficial effect on its symptoms, Carl G. Morlock, M.D., and Walter C. Alvarez, M.D., Rochester, Minn., declare in *The Journal of the American Medical Association*

for May 4 on the basis of their study of the history of 431 cases.

The appearance of bile, the secretion of the liver, during vomiting in migraine has led many patients to believe that the seat of the trouble must be in the liver. Actually the vomiting of bile may mean only that before or during the act there was reverse peristalsis or wavelike contractions in the upper part of the small bowel, a phenomenon common in vomiting regardless of the cause.

A search of the histories of 215 patients with definite liver diseases showed migraine in only sixteen, or 7.5 per cent. In order to get a control series, the histories of 216 patients, selected only so far as they did not reveal liver disturbances, were studied. Fourteen per cent of these patients had migraine.

"The figures certainly do not support the idea that disease of the liver is the cause of migraine," the authors declare. "If they indicate anything, it is that disease of the liver protects the patient from migraine." This hypothesis is supported by a careful study of the sixteen cases in which migraine and liver disease were associated, revealing that in eight the migraine either disappeared or became less severe after the disease in the liver made its appearance.

There is no rational basis for the common practice of giving bacon to babies, the October issue of *Hygeia, The Health Magazine* declares.

The practice apparently originated from the belief that the fat contained in bacon carried with it some valuable nutritional element. Since it is now known that the vitamin content of bacon is practically negligible, there is no obvious reason why bacon should be given.

SULFANILAMIDE AND EAR INFECTIONS

Premature withdrawal of sulfanilamide in the treatment of infections of the middle ear may cause the disease to recur and to spread, John Marquis Converse, M.D., New York, warns in *The Journal of the American Medical Association* for Oct. 7.

It is pointed out that treatment with the drug should be stopped only on clinical and laboratory evidence (blood tests) that the incriminating organism is no longer present. If the drug is stopped too soon the body's defensive mechanism is not prepared to deal with the remaining living streptococcal organisms and the patient has no immunity to his infection.

Dr. Converse believes that: "Sulfanilamide should be reserved for the treatment of spreading or life-endangering infections and it should not be used as an adjunct to the usual measures for the treatment of infections of minor severity."

"The amount of sulfanilamide required to sterilize a site of infection is so large that the danger of toxic manifestations necessitates the hospitalization of all patients receiving the drug."

Tuberculosis, during and after the World War, has cost approximately \$960,000,000 to date in compensation, vocational training, insurance and hospitalization. The moist rale, which was the criterion of fitness for the World War, is shown by experience, much of which has accumulated since that time, to be much less reliable than radiography in situations analogous to the examination of recruits. A huge amount of compensation has been paid out to men manifestly tuberculous at the time they were sent to camp who should have been rejected by the local draft boards, but were not.

A normal chest roentgenogram should be the criterion of acceptance in a future mobilization, including the draft for training, and it should be made and reported before the recruit has spent a night away from his own roof to obviate a repetition of the claims for aggravation of pre-existing tuberculosis which occurred during and after the World War. Ramsay Spillman, M.D., *Jour. Amer. Med. Assn.*, Oct. 19, 1940.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., Director

Postgraduate Course in Venereal Diseases

A course designed to bring to medical practitioners the latest available information about venereal disease is to be presented at the University of Georgia School of Medicine. It is sponsored by the Georgia Department of Public Health in cooperation with the U. S. Public Health Service and the Board of Regents of the University System.

Both didactic and clinical material concerning the five venereal diseases will be presented by staff members of the University of Georgia School of Medicine.

This work will be given at the University Hospital in Augusta, each course being two consecutive weeks in length. It is open only to white, licensed, medical doctors practicing in the State of Georgia. Each class is to be limited to ten physicians selected by the Director of the Georgia Department of Public Health according to the order in which their applications are received. There is no tuition fee. To defray expenses while in Augusta, each physician completing the course will be paid an honorarium of \$50.00.

WOMAN'S AUXILIARY : OFFICERS 1940-1941

President—Mrs. H. G. Banister, Ila.

President-elect—Mrs. Lee Howard, 625 East 44th Street, Savannah.

First Vice-President—Mrs. W. W. Chrisman, 112 Corbin Avenue, Macon.

Second Vice-President—Mrs. Fred Rawlings, Sandersville.

Third Vice-President—Mrs. D. Lloyd Wood, Dalton.

Press and Publicity—Mrs. J. Harry Rogers, 134 Huntington Road, N. W., Atlanta.

Recording Secretary—Mrs. Loren Gary, Jr., Shellman.

Treasurer—Mrs. W. Bruce Schaefer, Toccoa.

Corresponding Secretary—Mrs. L. S. Patton, Athens.

Parliamentarian—Mrs. J. E. Penland, Waycross.

Historian—Mrs. W. A. Selman, 760 Penn Ave., N. E., Atlanta.

SEVENTH DISTRICT

Mrs. Murl M. Hagood, of Marietta, was elected temporary chairman of the Woman's Auxiliary to the Seventh District Medical Society at the organization meeting held recently in Marietta. Mrs. H. G. Banister, of Ila, president of the Woman's Auxiliary to the Medical Association of Georgia, spoke before a meeting of the society, and obtained their permission to organize the Auxiliary. Members of the society voted in favor of the organization, pledged their cooperation to the women of the district. Following the organization of the district society, plans were made to organize county auxiliaries in Whitfield, Floyd and Gordon counties.

At the conclusion of the meeting, permission was obtained from the Cobb County Medical Society to organize a Cobb County Auxiliary. Mrs. H. G. Banister, of Ila, state president, and Mrs. Lee Howard, of Savannah, president-elect and chairman of organization, both made talks, following which the Auxiliary was organized. Officers elected were Mrs. W. H. Perkinson, president; Mrs. L. L. Welch, vice-president; and Mrs. G. O. Allen, secretary-treasurer. Others attending the meeting were Mesdames Ralph Fowler, Herbert Fowler, Mayes Gober, Murl M. Hagood and G. F. Hagood, Sr.

NINTH DISTRICT

The Woman's Auxiliary to the Ninth District Medical Society met recently at Canton. Mrs. C. J. Roper, of Jasper, president, presided. Mrs. Ralph Freeman, Sr., of Hoschton, secretary, read the minutes of the last meeting. During the business session, Mrs. W. T. Randolph, of Winder, was elected vice-president. Mrs. H. G. Banister, of Ila, president of the Woman's Auxiliary to the Medical Association of Georgia, gave highlights of the work to be undertaken during the year. It was reported that Gwinnett County had recently organized an Auxiliary, the district now having seven counties organized. Others being organized are: Jackson, Barrow, Habersham, Stephens, Cherokee and Pickens. The feature of the program was an illustrated lecture by Dr. Hugh Hailey, of Atlanta, on "Inflammation of the Skin Caused by Cosmetics." The next meeting will be held in Gainesville the third Wednesday in March.

SECOND DISTRICT

The Second District Medical Auxiliary met in Cairo, October 2, in connection with the Second District Medical Society. The meeting was held in the American Legion Club House and was called to order by the president, Mrs. J. A. Redfearn, of Albany.

Dr. J. A. Redfearn of Albany gave an interesting and instructive talk on the Tuberculosis Situation in the State of Georgia.

The state president of the Medical Auxiliary, Mrs. H. G. Banister, of Ila, talked on Mobilization, to present day conditions of Auxiliary members over our state, stressing the challenge that is ours to do our part. Another guest, Mrs. G. L. Loden of Colbert, state chairman of health films, told of her plan to show health films in all counties of the state. At the close of the program Mrs. C. S. Pittman of Tifton was appointed president for the coming year.

The doctor's wives of Cairo were then organized into an Auxiliary with the following chosen as officers: Mrs. J. B. Warnell, president; Mrs. A. W. Rehberg, vice-president; and Mrs. J. A. Lindsey, secretary-treasurer. Other members are Mrs. J. V. Rogers and Mrs. A. W. Walker, Sr. Later Auxiliary members joined the doctors for a banquet at the Grady Hotel.

FULTON COUNTY

The Woman's Auxiliary to the Fulton County Medical Society met on October 4 at Habersham Hall in Atlanta. Sixty-three members registered. Mrs. Olin S. Cofer, president, presided and Mrs. Bolling Gay gave the opening prayer. Mrs. Harry Rogers, secretary, and Mrs. John Turner, treasurer, gave their reports. Mrs. Forrest M. Barfield introduced Dr. Roy Kracke, professor of bacteriology and pathology at Emory University School of Medicine, who gave an informative talk on "Recent Advances in Medical Science." Mrs. W. M. Dunn, health education chairman, reported that 6 articles had recently appeared in Atlanta publications and that a new series of radio talks, "Health Heroines" had begun over radio station WATL. Mrs. Ross Brown, budget chairman, presented the budget for the year, calling for expenditures of \$517.15,

which was approved. Mrs. Dewey Nabors, ways and means chairman, told of the antique glass exhibit to be sponsored at the home of Mrs. O. H. Matthews.

Mrs. Cofer appointed Mrs. James N. Brawner and Mrs. Bernard L. Shackelford to serve with her on a steering committee, requested by Dr. Charles E. Rushin, president of the Fulton County Medical Society, to assist the society with plans for the new building. Mrs. Rogers read a letter from Mrs. Eustace A. Allen, chairman of the Mrs. James N. Brawner trophy committee, urging the Auxiliary to compete in the contest for the cup and outlining the credits to govern its award. Mrs. Eustace A. Allen, chairman of revisions of the constitution and by-laws, read the proposed new constitution and by-laws, to be voted upon at the November meeting. Luncheon was later served with Mrs. T. I. Wilingham and Mrs. Don Cathcart, Red Cross chairmen, and their committee in charge.

RANDOLPH COUNTY

The Woman's Auxiliary to the Randolph County Medical Society held its October meeting at the home of Mrs. W. W. Crook in Cuthbert with the president, Mrs. Loren Gary, Jr., presiding. Annual dues were paid and committees appointed to increase subscriptions to Hygeia, the national health magazine, to make a scrapbook and to work toward the accomplishment of the various objectives of the Auxiliary. A social hour followed the business session.

RICHMOND COUNTY

The Woman's Auxiliary to the Richmond County Medical Society met recently for a luncheon at the George Walton in Augusta. Twenty members were present. Mrs. Ralph H. Chaney read an interesting paper, "The Doctor's Wife." Plans were made for a dance to be given at an early date, to raise funds for philanthropic work during the year.

FIFTH DISTRICT

Mrs. J. Harry Rogers, of Atlanta, was elected president of the Woman's Auxiliary to the Fifth District Medical Society at the meeting held October 17 at the Biltmore Hotel in Atlanta. Other officers elected were Mrs. H. G. Ansley, of Decatur, vice-president; and Mrs. Harvey Griggs, of Conyers, secretary. Mrs. W. W. Anderson, chairman, presented the report of the nominating committee.

Mrs. George Williams, president, presided over the meeting. Mrs. Martin Myers acted as secretary. Dr. Hugh Wood, president of the Fifth District Medical Society, welcomed the members. Dr. George Williams introduced Dr. Richard Torpin, of Augusta, professor of gynecology and obstetrics at the University of Georgia School of Medicine, who talked about Dr. Ephraim

McDowell, who performed the first ovariectomy.

Mrs. H. G. Banister, of Ila, president of the Woman's Auxiliary to the Medical Association of Georgia, discussed "Health in Connection with the National Preparedness Program" and Mrs. Lee Howard, of Savannah, first vice-president, stressed the importance of organization. Mrs. Williams read an interesting report of her work as president for two years, following which she was given a vote of thanks. The meeting adjourned following installation of the new officers.

BIBB COUNTY

Dr. Milford B. Hatcher made a most informative talk on appendicitis at the recent meeting of the Woman's Auxiliary to the Bibb County Medical Society, held at the Hotel Dempsey in Macon. Dr. Hatcher stressed the importance of early treatment for all abdominal pains, saying any patient with stomachache should be regarded as having appendicitis until proved otherwise. In discussing self-medication for abdominal pains he said, "How many deaths can be marked up to castor oil, calomel and salts I cannot begin to enumerate." Mrs. Harold Atkinson, program chairman, introduced Dr. Hatcher and Mrs. J. P. Holmes, president, presided.

BALDWIN COUNTY

The Woman's Auxiliary to the Baldwin County Medical Society met recently with Mrs. C. G. Cox and Mrs. L. P. Longino hostesses, at the home of Mrs. Cox in Milledgeville. Mrs. Edwin Allen gave an interesting report of the summer meeting of the Woman's Auxiliary to the Sixth District Medical Society, held in Milledgeville. Objectives of the state auxiliary for 1940-41 were read by Mrs. Sam Anderson. Mrs. C. B. Fulghum gave a piano solo. Refreshments were served.

NEWS ITEMS

At the recent meeting of the Board of Trustees of the UNITED STATES PHARMACOPOEIAL CONVENTION in Washington, Doctor Allen H. Bunce, Atlanta, was elected chairman of the Committee on Constitution and By-Laws to serve until the next Decennial Convention in 1950. It was decided to publish a supplemental volume of the Pharmacopoeia every five years and special supplements more frequently so that it may prove of more practical benefit to the pharmaceutical and medical professions and to the government in enforcing the Food and Drug Act.

DR. ROBERT GREENBLATT accepted an invitation of the Surgeon General to be guest lecturer the week of November 3 at the post-graduate course given at the U. S. Public Health Institute in Hot Springs, Arkansas. Dr. Greenblatt will deliver a series of ten lectures and hold several clinics. On November 5 he will be guest speaker at the Jefferson Medical Society, Pine Bluff, Arkansas. Dr. Greenblatt returned from Hot

Springs via Louisville, Ky., where he is due to speak on November 13 before the Section on Gynecology of the Southern Medical Association, meeting in convention November 12-15.

The staff of the CRAWFORD W. LONG MEMORIAL HOSPITAL, Atlanta, met on October 10. Dr. Francis P. Parker spoke on *The Use of Plasma for Transfusions*; Dr. Shelley C. Davis led the discussion. Dr. Wadley R. Glenn spoke on *The Charts and Records in the Hospital*; other members of the staff were invited to offer constructive criticism. Dr. Harold P. McDonald reported a case of *Hydronephrosis*. Dr. C. M. Warnock is secretary of the staff and Dr. Harold P. McDonald is chairman of the Program Committee.

DR. JOHN L. ELLIOTT, Savannah, was elected president of the Georgia Tuberculosis Association at its meeting in Savannah, October 4. Dr. James M. Hull, Augusta, was elected vice-president; Dr. C. M. Sharp, Alto, was appointed a member of the Executive Committee.

DR. HAROLD W. MUECKE and DR. BEN H. MALONE, Waycross, entertained members of the Ware County Medical Society at dinner recently in the Phoenix Hotel.

DR. AND MRS. THOMAS S. CLAY, Savannah, celebrated their golden wedding anniversary at their home, 120 East Jones Street, October 7. Dr. Clay has practiced medicine in Savannah for more than 40 years.

DR. C. D. BOWDOIN, Atlanta, State Department of Public Health, spoke before a meeting of the Ware County Medical Society at Waycross, October 2, on *Brill's Disease*. The subject was discussed by Doctors J. E. Penland, R. L. Johnson, W. F. Reavis, W. L. Pomeroy, Leo Smith, W. C. Hafford, G. E. Atwood, and F. A. Brink.

The BIBB COUNTY MEDICAL SOCIETY met in Ridley Hall, Macon, October 15. Dr. Thos. L. Ross spoke on *Vitamin B Complex*.

The SOUTHEASTERN PSYCHIATRIC ASSOCIATION met at Hotel George Washington, Jacksonville, Florida, October 21-22. Among other physicians on the program were: Dr. C. G. Cornwell, Milledgeville, and Dr. Newdigate M. Owensby, Atlanta. Dr. Owensby is secretary-treasurer.

DR. MILFORD B. HATCHER, Macon, spoke before a meeting of the Woman's Auxiliary to the Bibb County Medical Society, October 8, on *Complications of Appendicitis*.

The JACKSON-BARROW COUNTIES MEDICAL SOCIETY met at Jefferson on October 7. Dr. Hartwell Joiner, Gainesville, was the principal speaker.

DR. M. E. GROOVER, Quitman, Brooks County Commissioner of Health, spoke before a meeting of the Quitman Rotary Club October 8 on the *Value of the X-Ray*.

DOCTORS GEO. Y. MASSENBURG, A. M. PHILLIPS and CHAS. N. WADEN, all of Macon, took post-graduate study recently at the Mayo Clinic, Rochester, Minnesota.

DR. ROBERT W. CANDLER announces the opening of offices in Suite 607 Doctors Building, 478 Peachtree St., N. E., Atlanta, for practice of surgery.

The AMERICAN COLLEGE OF SURGEONS approved the following hospitals and cancer clinics in Georgia: ALBANY—Phoebe Putney Memorial Hospital; ALTO—Georgia State Tuberculosis Sanatorium; ATHENS—Athens General Hospital and St. Mary's Hospital; ATLANTA AREA—Albert Steiner Clinic for Cancer and Allied Diseases, Crawford W. Long Memorial Hospital, Emory University Hospital, Fort McPherson Station Hospital, Georgia Baptist Hospital, Grady Hospital, Henrietta Eggleston Hospital for Children, Piedmont Hospital, St. Joseph's Infirmary, Scottish Rite Hospital for Crippled Children (Decatur), United States Penitentiary Hospital, United States Veterans' Administration Hospital; AUGUSTA—University Hospital, United States Veterans' Hospital, and Willenford Hospital for Women and Children; COLUMBUS—Columbus City Hospital; CUTHBERT—Patterson Hospital; EASTMAN—Coleman Sanatorium; FORT BENNING—Station Hospital; FORT OGLETHORPE—Station Hospital; GAINESVILLE—Downey Hospital; GRIFFIN—R. F. Strickland and Son Memorial Hospital; LAGRANGE—City-County Hospital; MACON—Macon Hospital, Middle Georgia Hospital, Oglethorpe Private Infirmary; MILLEDGEVILLE—Baldwin Memorial Hospital; MILLEN—Millen Hospital; ROME—Harbin Hospital and McCall Hospital; SAVANNAH—Central of Georgia Railway Hospital, Charity Hospital, St. Joseph's Hospital, United States Marine Hospital, Warren A. Candler Hospital; THOMASVILLE—John D. Archbold Memorial Hospital; VALDOSTA—Little-Griffin-Owens-Saunders Private Hospital; WARM SPRINGS—Georgia Warm Springs Foundation; WAYCROSS—Atlantic Coast Line Hospital and Ware County Hospital; HOSPITALS CONDUCTING APPROVED CANCER CLINICS: ATLANTA AREA—Emory University Hospital, Georgia Baptist Hospital, United States Veterans' Hospital; AUGUSTA—University Hospital; COLUMBUS—Columbus City Hospital; MACON—Macon Hospital; THOMASVILLE—John D. Archbold Memorial Hospital.

DR. DANIEL C. ELKIN, Atlanta, has been selected as the third winner of the Matas Award. It is considered one of the highest honors which may be bestowed upon a surgeon and was given Dr. Elkin for his most skillful treatment of stab wounds of the heart and aneurysm. The award is a memorial to Dr. Rudolph Matas, New Orleans, a graduate of the Louisiana State University School of Medicine, class of 1880. The award was presented to Dr. Elkin in New Orleans November 14. The first surgeon to receive the award was Dr. Mont R. Reid of the University of Cincinnati in 1934; the second was Dr. Reynoldo dos Cantos of the University of Lisbon, Portugal.

DR. EDGAR H. GREENE, Atlanta, Georgia State chairman of the Committee on Medical Preparedness, was one of the principal speakers at a meeting of the Committee on Medical Preparedness of the South Carolina Medical Association at Columbia, S. C., October 14. He urged the physicians serving on the draft boards to serve impartially and intelligently, and explained the needless expense to the Government and disruption of the draftee's life by drafting those who were not physically fit.

DR. LEWIS H. McDONALD announces his association with Doctors Hulett H. and Rufus A. Askew in the practice of medicine and general surgery in Suite 915 Candler Building, Atlanta.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, November 1.

DR. M. P. AGEY, Augusta, was elected Grand Master of the Grand Lodge of F. & A. M. at the close of its 154th annual communication held in Macon.

THE FULTON COUNTY MEDICAL SOCIETY announces the removal of its offices to 17 Alexander Street, N. W., Atlanta.

THE BIRB COUNTY MEDICAL SOCIETY met at Ridley Hall, Macon, November 5. Mr. Ed. Benton discussed *Compensation Law and the Doctor*.

DR. NEWDIGATE M. OWENSBY, Atlanta, has been appointed director of one of twelve regional districts of the Committee on Public Education of the American Psychiatric Association.

The regular monthly staff meeting of EMORY UNIVERSITY HOSPITAL, Emory University, was held on November 4. Reports of cases were as follows: "*Sub-Dural Hematoma*" by Dr. Exum Walker; "*Patent Ductus Arteriosus with Superimposed Bacterial Endocarditis*," Dr. Arthur Merrill; "*Esophageal Diverticulum*," Dr. Henry Poer.

DR. J. HARRIS DEW, DR. HAROLD P. McDONALD, DR. JULIAN G. RILEY and DR. EDGAR F. FINCHER, all of Atlanta, have been elected to fellowship in the American College of Surgeons; and DR. O. C. WOODS, Milledgeville; DR. RALPH N. JOHNSON, Rome.

DR. A. J. WARING, Savannah, has been elected third vice-president of the Chatham-Savannah Health Center and will become president in 1941.

DR. AND MRS. H. L. BARKER, Carrollton, entertained members of the Carroll County Medical Society in their home on October 11.

DR. FRED F. RUDDER, Atlanta, spoke before a meeting of the West End Civic Club on *Prevention of Mortality in Appendicitis* on October 23.

DR. ALLEN H. BUNCE, Atlanta, president-elect of the Medical Association of Georgia, spoke before a meeting of the Second District Medical Society at Cairo, October 17, *Those Conscripted for the U. S. Army Will Receive 'One of the Greatest Honors That Can Come to a Youth.'*

DR. W. FRANK WELLS, of Hapeville and Atlanta, taught the Fellowship Class of the First Methodist Church Sunday School at Hapeville on October 27.

DR. G. O. ALLEN, Marietta, chairman of the Cobb County Board of Health, spoke at a luncheon of the Marietta Rotary Club, October 24, on *Endocrinology*.

THE GEORGIA STATE NURSES ASSOCIATION held its Thirty-Fourth Annual Convention at Albany November 11-13, 1940. The meetings were held conjointly with the

Private Duty Section of the Nurses Association, Georgia League of Nursing Education, Georgia State Organization for Public Health Nursing, and Georgia State Committee of the American Red Cross. Among the guests at the convention were Dr. J. C. Patterson, Cuthbert, president of the Medical Association of Georgia; and Dr. J. J. Collins, Thomasville. Officers of the Nurses Association were: Miss Frieda Grefe, president; Miss Carrie Spurgeon, first vice-president; Mrs. Mae M. Jones, second vice-president; Mrs. Esther Watts, secretary; Miss Jane Van De Vrede, treasurer.

A physician is wanted immediately for a hospital situated on the coast. If interested, write the secretary-treasurer.

OBITUARY

Dr. Charles Edward Boynton, Jr., Atlanta; member; Emory University School of Medicine, Emory University, aged 40; died suddenly on September 25, 1940, of heart disease. He was born and reared in Atlanta. He graduated at Princeton University in 1923. After Dr. Boynton graduated in medicine, he served as an intern at Grady Hospital, Atlanta; then practiced in West Palm Beach, Florida, until 1933. Dr. Boynton was associated in the practice of pediatrics with his father, Dr. Charles E. Boynton, Sr. He was a member of the Fulton County Medical Society, the American Medical Association and the Trinity Methodist church. Surviving him are his widow; two children, Charles E. Boynton IV, and Erle Warren Thompson Boynton; his father, Dr. Chas. E. Boynton, Sr., Atlanta; two sisters, Dr. Estelle Pattilo Boynton and Mrs. James Randolph Brown, of Jacksonville, Florida. Rev. Paul A. Turner officiated at the funeral services conducted at Spring Hill chapel. Burial was in West View cemetery.

Dr. Leonidas F. Smith, Lindale; Vanderbilt University School of Medicine, Nashville, Tenn., 1896; aged 72; died September 20, 1940, at a private hospital in Rome after a long illness. He was a useful citizen and prominent physician in that section of the State.

Dr. Allen D. Johnson, Atlanta; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1831; aged 86; died September 20, 1940. He practiced medicine for more than 40 years and retired 15 years ago. Rev. Edward G. Mackay officiated at the funeral services conducted at Spring Hill chapel. Burial was in Oakland cemetery.

Dr. Bert Luther Kennedy, Dalton; member; Birmingham Medical College, Birmingham, Ala., 1911; aged 60; died at a private hospital in Chattanooga, Tenn., October 17, 1940. He was a native of Holston, Va. Dr. Kennedy moved to Dalton in 1912 and served as city physician for several years. He had many friends and an extensive practice. Dr. Kennedy was a large real estate owner in Whitfield County, Ga., and in Virginia. Surviving him are his widow, one daughter, Miss Hasseltine Kennedy; one foster son, Russell Counts. Rev. Irby Henderson officiated at the funeral services conducted at the home. Burial was in West Hill cemetery. Members of the Whitfield County Medical Society were honorary pallbearers.

DISTRICT MEDICAL ADVISORY BOARDS FOR GEORGIA'S SELECTIVE SERVICE ADMINISTRATION

(Appointed by Governor Rivers)

First District

Internist, Dr. J. C. Metts, Savannah; surgeon, Dr. C. F. Holton, Savannah; orthopedist, Dr. Barton Brown, Savannah; radiographer (x-ray), Dr. Robert Drane, Savannah; clinical pathologist, Dr. Lee Howard, Savannah; eye, ear, nose, throat, Dr. G. H. Lang, Savannah; psychiatrist, Dr. T. J. Charlton, Savannah; dentist, Dr. R. F. Sullivan, Savannah.

Second District

Internist, Dr. Roy A. Hill, Thomasville; surgeon, Dr. Charles Wall, Thomasville; orthopedist, Dr. Charles H. Watt, Thomasville; radiographer (x-ray), Dr. J. J. Collins, Thomasville; clinical pathologist, Dr. Mary J. Erickson, Thomasville; eye, ear, nose, throat, Dr. John T. King, Thomasville; psychiatrist, Dr. Ernest F. Wahl, Thomasville; dentist, Dr. J. R. O'Neal, Pelham.

Third District

Internist, Dr. Guy J. Dillard, Columbus; surgeon, Dr. W. L. Cook, Columbus; orthopedist, Dr. Joe Gaston, Columbus; radiographer (x-ray), Dr. W. F. Jenkins, Columbus; clinical pathologist, Dr. F. G. Bratley, Columbus; eye, ear, nose, throat, Dr. F. B. Blackmar, Columbus; psychiatrist, Dr. John B. Walker, Columbus; dentist, Dr. A. A. Williams, Columbus.

Fourth District

Internist, Dr. W. C. Miles, Griffin; surgeon, Dr. A. H. Frye, Griffin; orthopedist, Dr. Kenneth Hunt, Griffin; radiographer (x-ray), Dr. Enoch Callaway, LaGrange; clinical pathologist, Dr. T. G. Smaha, Griffin; eye, ear, nose, throat, Dr. W. H. Hadaway, LaGrange; psychiatrist, Dr. H. J. Copeland, Griffin; dentist, Dr. J. C. Owen, Griffin.

Fifth District

Internist, Dr. W. H. Trimble, Atlanta; surgeon, Dr. S. A. Kirkland, Atlanta; orthopedist, Dr. T. P. Goodwyn, Atlanta; radiographer (x-ray), Dr. J. J. Clark, Atlanta; clinical pathologist, Dr. R. R. Kracke, Atlanta; eye, ear, nose, throat, Dr. Claude Griffin, Atlanta; psychiatrist, Dr. W. W. Young, Atlanta; dentist, Dr. J. G. Williams, Atlanta.

Sixth District

Internist, Dr. T. L. Ross, Macon; surgeon, Dr. A. R. Rozar, Macon; orthopedist, Dr. J. T. Hall, Macon; radiographer (x-ray), Dr. J. A. Fountain, Macon; clinical pathologist, Dr. Max Mass, Macon; eye, ear, nose, throat, Dr. J. A. Smith, Jr., Macon; psychiatrist, Dr. E. W. Allen, Milledgeville; dentist, Dr. Frampton Farmer, Macon.

Seventh District

Internist, Dr. Thomas H. Moss, Rome; surgeon, Dr. J. T. McCall, Rome; orthopedist, Dr. James H. Mull, Rome; radiographer (x-ray), Dr. William H. Lewis, Rome; clinical pathologist, Dr. E. L. Bosworth, Rome; eye, ear, nose, throat, Dr. George B. Smith, Rome; psychiatrist, Dr. W. P. Harbin, Jr., Rome; dentist, Dr. Carl Betts, Rome.

Eighth District

Internist, Dr. J. E. Penland, Waycross; surgeon, Dr. Kenneth McCullough, Waycross; orthopedist, Dr. W. L.

Pomeroy, Waycross; radiographer (x-ray), Dr. D. M. Bradley, Waycross; clinical pathologist, Dr. George E. Atwood, Waycross; eye, ear, nose, throat, Dr. B. H. Minchew, Waycross; psychiatrist, Dr. Henry A. Seamon, Waycross; dentist, Dr. J. H. Brewton, Waycross.

Ninth District

Internist, Dr. W. R. Garner, Gainesville; surgeon, Dr. C. D. Whelchel, Gainesville; orthopedist, Dr. J. K. Burns, Gainesville; radiographer (x-ray), Dr. Lee Rogers, Gainesville; clinical pathologist, Dr. William B. Harrison, Gainesville; eye, ear, nose, throat, Dr. C. G. Butler, Gainesville; psychiatrist, Dr. Jesse L. Meeks, Gainesville; dentist, Dr. Charles Brice, Gainesville.

Tenth District

Internist, Dr. J. W. Brittingham, Augusta; surgeon, Dr. W. W. Battey, Augusta; orthopedist, Dr. Henry Mitchell, Augusta; radiographer (x-ray), Dr. L. P. Holmes, Augusta; clinical pathologist, Dr. Edgar R. Pund, Augusta; eye, ear, nose, throat, Dr. C. M. Kilpatrick, Augusta; psychiatrist, Dr. H. C. Cleckley, Augusta; dentist, Dr. Reginald Maxwell, Augusta.

—Atlanta Constitution, Atlanta, November 6, 1940.

NAMES OF COUNTIES AND PHYSICIANS TO SERVE AS MEDICAL ADVISERS ON DRAFT BOARDS

Appling—Dr. J. T. Holt, Baxley

Atkinson—Dr. L. H. Shellhouse, Willacoochee

Bacon—Dr. H. L. Denny, Alma

Baker—Dr. C. W. Twitty, Newton

Baldwin—Dr. C. G. Cox, Milledgeville

Banks—Dr. J. S. Jolley, Homer

Barrow—Dr. W. L. Mathews, Winder

Bartow—Dr. J. W. Stanford, Cartersville

Ben Hill—Dr. W. P. Coffee, Fitzgerald

Bibb—Board No. 1, Dr. R. G. Newton; No. 2, Dr. H. C.

Atkinson; No. 3, Dr. Thomas Harrold, all of Macon.

Bleckley—Dr. W. V. Parramore, Cochran

Brantley—Dr. E. A. Moody, Nahunta

Brooks—Dr. L. A. Smith, Quitman

Bryan—Dr. J. O. Strickland, Pembroke

Bulloch—Dr. B. A. Deal, Statesboro

Burke—Dr. J. M. Byne, Jr., Waynesboro

Butts—Dr. O. B. Howell, Jackson

Calhoun—Dr. C. K. Sharp, Arlington

Candler—Dr. W. E. Simmons, Metter

Carroll—Dr. C. C. Fitts, Carrollton

Catoosa—Dr. C. W. Stephenson, Ringgold

Charlton—Dr. W. R. McCoy, Folkston

Chatham—Board No. 1, Dr. C. G. Redmond; No. 2, Dr.

D. B. Edwards; No. 3, Dr. H. T. Compton; No. 4,

Dr. John L. Elliott, all of Savannah.

Chattahoochee—Dr. Geo. R. Conner, Cusseta

Chattooga—Dr. H. D. Brown, Summerville

Cherokee—Dr. Geo. C. Brooke, Canton

Clarke—Dr. C. O. Middlebrooks, Athens

Clay—Dr. B. T. Johnson, Bluffton

Clayton—Dr. Y. R. Coleman, Jonesboro

Clinch—Dr. F. A. Brink, Homerville

Cobb—Dr. W. H. Perkinson, Marietta

Coffee—Dr. Roy L. Johnson, Douglas

Colquitt—Dr. C. M. Hitchcock, Moultrie

- Columbia*—Dr. J. G. Saggus, Harlem
Cook—Dr. L. R. Hutchinson, Adel
Coweta—Dr. R. H. McDonald, Newnan
Crawford—Dr. G. W. Heriot, Roberta
Crisp—Dr. Charlie Adams, Cordele
Dade—Dr. J. L. Gardner, Sulphur Springs
Decatur—Dr. W. L. Wilkinson, Bainbridge
DeKalb—Board No. 1, Dr. W. P. Smith; No. 2, Dr. L. P. Mathews, both of Decatur; No. 3, Dr. W. A. Mendenhall, Chamblee.
Dodge—Dr. I. J. Parkerson, Eastman
Dooly—Dr. M. L. Malloy, Vienna
Douglas—Dr. C. V. Vansant, Douglasville
Early—Dr. W. H. Wall, Blakely
Echols—Dr. J. W. Pennington, Howell
Effingham—Dr. Ein Collum, Springfield
Elbert—Dr. F. A. Smith, Elberton
Emanuel—Dr. D. D. Smith, Swainsboro
Evans—Dr. J. W. Daniel, Claxton
Fannin—Dr. C. B. Crawford, Blue Ridge
Fayette—Dr. T. J. Busey, Fayetteville
Floyd—Board No. 1, Dr. A. H. Dellinger, Rome; No. 2, Dr. S. R. Methvin, Lindale.
Forsyth—Dr. Marcus Mashburn, Cumming
Gilmer—Dr. J. F. O'Daniel, Ellijay
Glynn—Dr. J. B. Avera, Brunswick
Gordon—Z. V. Johnston, Calhoun
Grady—Dr. A. B. Reynolds, Cairo
Gwinnett—Dr. D. C. Kelley, Lawrenceville
Habersham—Dr. D. H. Garrison, Clarkesville
Hall—Dr. C. J. Wellborn, Gainesville
Hancock—Dr. C. S. Jernigan, Sparta
Haralson—Dr. E. F. Sanford, Buchanan
Heard—Dr. J. L. Taylor, Franklin
Henry—Dr. R. V. Brandon, McDonough
Houston—Dr. H. E. Evans, Perry
Irwin—Dr. S. L. McElroy, Ocilla
Jackson—Dr. C. B. Lord, Jefferson
Jeff Davis—Dr. S. W. Martin, Hazlehurst
Jenkins—Dr. Q. A. Mulkey, Millen
Johnson—Dr. J. G. Brantley, Wrightsville
Jones—Dr. J. D. Zachary, Gray
Lamar—Dr. J. A. Corry, Barnesville
Lanier—Dr. Louis Smith, Lakeland
Laurens—Board No. 1, Dr. A. T. Coleman; No. 2, Dr. E. B. Claxton, both of Dublin.
Lee—Dr. W. E. Field, Leesburg
Liberty—Dr. A. C. Colson, Hinesville
Lincoln—Dr. R. H. Smith, Lincolnton
Long—Dr. O. D. Middleton, Ludowici
Lowndes—Dr. Albert F. Saunders, Valdosta
Lumpkin—Dr. H. H. Lancaster, Dahlonega
Macon—Dr. J. Fred Adams, Montezuma
Marion—Dr. J. T. Rainey, Buena Vista
McDuffie—Dr. F. N. Gibson, Thomson
McIntosh—Dr. W. J. Long, Townsend
Meriwether—Dr. J. A. Johnson, Manchester
Miller—Dr. W. H. Houston, Colquitt
Mitchell—Dr. M. M. Burns, Pelham
Monroe—Dr. G. H. Alexander, Forsyth
Morgan—Dr. D. M. Carter, Madison
Murray—Dr. R. H. Bradley, Chatsworth
Muscogee—Board No. 1, Dr. A. N. Dykes; No. 2, Dr. Bruce Threatte, both of Columbus.
Newton—Dr. S. L. Waites, Covington
Oconee—Dr. E. H. Kenimer, Bishop
Oglethorpe—Dr. W. L. Green, Jr., Lexington
Paulding—Dr. J. I. Matthews, Dallas
Peach—Dr. J. E. Haslam, Fort Valley
Pickens—Dr. Truman W. Whitfield, Jasper
Pierce—Dr. J. M. Hawkins, Blackshear
Pike—Dr. D. L. Head, Zebulon
Polk—Dr. C. V. Wood, Cedartown
Pulaski—Dr. A. S. Batts, Hawkinsville
Putnam—Dr. E. F. Griffith, Eatonton
Quitman—Dr. Loren Gary, Georgetown
Rabun—Dr. J. A. Green, Clayton
Randolph—Dr. J. C. Patterson, Cuthbert
Richmond—Board No. 1, Dr. J. H. Butler; No. 2, Dr. W. D. Jennings; No. 3, Dr. J. Victor Roule, all of Augusta.
Rockdale—Dr. H. E. Griggs, Conyers
Schley—Dr. Arch Avary, Ellaville
Screven—Dr. R. R. Wagoner, Sylvania
Seminole—Dr. E. C. Bridges and Dr. Thomas Chason, both of Donalsonville.
Spalding—Dr. Geo. L. Walker, Griffin
Stephens—Dr. J. H. Terrell, Toccoa
Stewart—Dr. A. R. Sims, Richland
Sumter—Dr. Russell Thomas, Americus
Talbot—Dr. J. B. Mitchell, Talbotton
Taliaferro—Dr. A. H. Beazley, Crawfordville
Tattnall—Dr. A. C. Branch, Glennville
Taylor—Dr. R. C. Montgomery, Butler
Telfair—Dr. C. J. Maloy, McRae
Terrell—Dr. S. P. Kenyon, Dawson
Thomas—Dr. J. I. Palmer, Thomasville
Toombs—Dr. W. W. Aiken, Lyons
Towns—Dr. R. T. Coleman, Young Harris
Troup—Board No. 1, Dr. J. R. Terrell, Jr., LaGrange; No. 2, Dr. C. W. Harvey, Hogansville.
Turner—Dr. W. K. Stewart, Ashburn
Twiggs—Dr. Orman Daniel, Jeffersonville
Union—Dr. W. T. Kinsey, Blairsville
Upson—Dr. R. L. Carter, Thomaston
Walker—Dr. S. B. Kitchens, LaFayette
Walton—Dr. Philip R. Stewart, Monroe
Warren—Dr. H. T. Kennedy, Warrenton
Washington—Dr. R. L. Taylor, Davisboro
Wayne—Dr. A. J. Gordon, Jesup
Webster—Dr. J. F. Lunsford, Preston
Wheeler—Dr. D. C. Colson, Glenwood
White—Dr. L. G. Neal, Cleveland
Wilcox—Dr. L. A. Williams, Abbeville
Wilkes—Dr. A. W. Simpson, Washington
Wilkinson—Dr. G. W. DuPree, Gordon
Worth—Dr. E. C. Harris, Sylvester

MEETING OF COMMITTEE ON MEDICAL PREPAREDNESS

On October 17, 1940, at the call of the State chairman, Dr. Edgar H. Greene, of Atlanta, the following chairmen of county preparedness committees met in Atlanta

to discuss the proposed set-up of the draft and advisory boards:

Dr. C. B. Fulghum, Milledgeville;
 Dr. W. D. Wilcox, Fitzgerald;
 Dr. R. C. Goolsby, Jr., Macon;
 Dr. J. M. Byne, Jr., Waynesboro;
 Dr. W. E. Barfield, Jackson;
 Dr. C. C. Fitts, Carrollton;
 Dr. C. F. Holton, Savannah;
 Dr. N. A. Funderburk, Trion;
 Dr. G. C. Brooke, Canton;
 Dr. L. S. Patton, Athens;
 Dr. J. R. Wallis, Lovejoy;
 Dr. W. H. Perkinson, Marietta
 Dr. Sage Harper, Ambrose;
 Dr. M. F. Cochran, Newnan
 Dr. H. B. Jenkins, Donalsonville;
 Dr. L. P. Matthews, Decatur;
 Dr. R. E. Hamilton, Douglasville;
 Dr. F. A. Smith, Elberton
 Dr. J. T. McCall, Jr., Rome;
 Dr. Marcus Mashburn, Cumming;
 Dr. D. C. Williams, Lavonia;
 Dr. J. F. Denton, Atlanta;
 Dr. M. A. Acree, Calhoun
 Dr. H. I. Cheves, Greensboro;
 Dr. D. C. Kelley, Lawrenceville;
 Dr. D. H. Garrison, Clarksville;
 Dr. O. D. King, Bremen;
 Dr. W. T. Randolph, Winder;
 Dr. E. M. Lancaster, Shady Dale;
 Dr. Q. A. Mulkey, Millen;
 Dr. S. B. Traylor, Barnesville;
 Dr. J. A. Bell, Jr., Dublin;
 Dr. W. W. Turner, Nashville;
 Dr. J. Fred Adams, Montezuma;
 Dr. R. B. Gilbert, Greenville;
 Dr. C. L. Roles, Camilla;
 Dr. S. D. Work, Jr., Forsyth;
 Dr. A. N. Dykes, Columbus;
 Dr. W. D. Travis, Covington;
 Dr. J. C. Dover, Clayton;
 Dr. Harvey E. Griggs, Conyers;
 Dr. T. G. Smaha, Griffin;
 Dr. W. B. Heller, Toccoa;
 Dr. J. C. Collins, Collins;
 Dr. R. C. Montgomery, Butler;
 Dr. J. T. Persall, McRae;
 Dr. W. W. Aiken, Lyons;
 Dr. W. H. Wall, Blakely;
 Dr. C. O. Middleton, Ludowici;
 Dr. E. P. Walker, LaGrange;
 Dr. Paul M. Golley, LaFayette;
 Dr. A. W. Davis, Warrenton;
 Dr. E. G. Newsome, Sandersville;
 Dr. J. A. Leaphart, Jesup;
 Dr. H. J. Ault, Dalton;
 Dr. R. G. Stephens, Washington;
 Dr. H. C. Weaver, Macon;
 Dr. Grady N. Coker, Canton;
 Dr. W. A. Selman, Atlanta;
 Dr. Enoch Callaway, LaGrange;

Dr. C. Thompson, Millen;
 Dr. Kenneth S. Hunt, Griffin;
 Dr. Z. V. Johnston, Calhoun;
 Dr. C. B. Lord, Jefferson;
 Dr. Marion C. Pruitt, Atlanta;
 Dr. W. W. Turner, Nashville;
 Dr. J. G. McDaniel, Atlanta;
 Dr. Edgar D. Shanks, Atlanta.

Two representatives of the government, Major Charles F. Brockman, from the Military Department of Georgia, and Colonel Ross Bretz, from headquarters of the Fourth Corps Area, gave informative talks. Major Brockman discussed in detail the Selective Service Law. Colonel Bretz stressed the necessity of careful examinations in order that the physically unfit might be eliminated while the physically fit might be selected for service.

Dr. T. F. Abercrombie, director of the State Department of Public Health, discussed the work in regard to public health and sanitation measures his department proposes to do to aid the Government's preparedness program.

Dr. J. C. Patterson, of Cuthbert, president of the Medical Association of Georgia, and Dr. J. E. Paulin, of Atlanta, chairman of the Committee on Medical Preparedness for the Fourth Corps Area, were unable to attend the meeting. They, however, sent messages pledging their cooperation and emphasized the necessity of every physician aiding the national defense program whenever possible.

The deferment of officers in the reserve corps was a matter of vital importance which the committee discussed. The War Department assured the liaison officers that it does not desire to interrupt any more than is absolutely necessary the normal routine of hospitals, medical schools or to interfere with medical attention to civilian population or to industrial workers. The advice of the local chairman should be sought concerning the deferment of any doctor whose services are needed at the present time, in some particular location.

Drs. Edgar Shanks, of Atlanta, and C. F. Holton, of Savannah, led the discussion concerning the questionnaires sent from the headquarters of the American Medical Association. Only 55 per cent of the doctors in Georgia had returned the questionnaires. The Woman's Auxiliary to the Medical Association of Georgia offered to help medical preparedness in Georgia in any way that the committee might suggest.

Many physicians because of physical disability, advancement in years or retirement from practice, thought it unnecessary to return the questionnaires. The committee wishes to emphasize that every person who has a license to practice medicine, regardless of age, sex, race, occupation or physical condition, should fill in and mail the questionnaire to American Medical Association headquarters immediately.

The government is offering the medical profession an opportunity for full cooperation in the defense program, and in order to maintain this it is imperative for every doctor to respond immediately to every request and assist in carrying out our mission.

BOOK REVIEW

Endocrine Gynecology by E. C. Hamblin, M.D., Durham, N. C. Publishers: Charles C. Thomas, Springfield, Ill., 1939; pp. 453, price \$5.50.

This book comes at a time when it fills a definite need in medical literature. Endocrinology is a part of the practice of every gynecologist. Hamblin's book is so written that it is helpful to the general practitioner as well as to the man who does gynecologic work exclusively. One who is conversant with the recent work in endocrine gynecology marvels that a book can be so up to the minute.

The reviewer feels that the gynecologist is fortunate to have such an authoritative reference available. The text contains little padding and the index renders the desired information easily accessible. There is a comprehensive review of the research work that has been done with the endocrines and the bibliographical references are fully given at the end of each chapter.

The technic of endometrial biopsy is clearly and fully described, endometrial patterns are illustrated and correlated with clinical findings. The physiological and pathological effects of the endocrines are fully discussed and the different types of the endocrinopathies are illustrated.

The chapters on the "Functional Irregularities of Uterine Bleeding" and "The Endocrine Aspects of Functional Sterility" are valuable and helpful to the gynecologist interested in these subjects.

It is a book which is so useful as to deserve a place at your hand for ready reference, the author having gone to great pains to present the viewpoint of the enthusiastic clinician while he brings to bear upon it a wholesome scientific skepticism.

The book is of easy size and the subject matter is printed on excellent paper in large type.

JOHN W. TURNER, M.D.

Manual of Otolaryngology, Rhinology and Laryngology, Howard Charles Ballenger, M.D., Assistant Professor of Otolaryngology, Northwestern University School of Medicine, Chicago, Ill. Cloth. Price, \$3.75. Published 1940. 302 pages; 90 engravings and 4 color plates.

The author states that this book is primarily for medical students. It is divided into four parts:

- (1) Nose and Accessory Sinuses.
- (2) Pharynx and Fauces.
- (3) Disease of the Larynx.
- (4) The Ear.

The first two parts are rather unimpressive. Little has been added to the usual text of this subject. There is a moderately long treatise on the larynx which is up-to-date. Almost half of the book is taken up with the diseases and function of the ear. This is more comprehensive and detailed than the other subjects. The manual is, to a certain extent, a brief of the author's larger and older volume but in making this brief, it is rather elementary for the specialist, and lacks fullness of the subject of rhinology for the students. The division on the ear would seem to be the redeeming feature of the book.

LESTER A. BROWN, M.D.

SQUIBB OFFERS PYRIDOXINE IN MICROCAPS AND SOLUTION

Pyridoxine Hydrochloride (the hydrochloride of pure, synthetic vitamin B₆) is now being supplied by E. R. Squibb & Sons, New York, in two forms—Microcaps (miniature capsules) for oral administration containing 1 mg. and 10 mg. each, and aqueous solution for parenteral administration, containing 25 mg. per cc.

Indications for Pyridoxine therapy are not well established as yet, but they include vitamin B₆ deficiency conditions complicating pellagra, beri-beri, and other nutritional deficiency states. Limited clinical investigation suggests the use of Pyridoxine in the treatment of paralysis agitans (Parkinson's syndrome), myasthenia gravis and pseudohypertrophic muscular dystrophy.

Solution Pyridoxine Hydrochloride Squibb may be given by the subcutaneous, intramuscular or intravenous route; the Microcaps are administered orally. The suggested prophylactic dose is 1 to 5 milligrams daily by mouth. The therapeutic dose suggested is 10 to 50 milligrams daily, preferably by a parenteral route.

One mg. Microcaps are supplied in vials of 50, and 10 mg. in boxes of 20. The solution comes in 5-cc, rubber-capped vials containing 25 mg. Pyridoxine Hydrochloride per 1 cc., preserved with 0.5 per cent chlorobutanol.

VITAMIN ADVERTISING AND THE MEAD JOHNSON POLICY

The present spectacle of vitamin advertising running riot in newspapers and magazines and via radio emphasizes the importance of the physician as a controlling agent in the use of vitamin products.

Mead Johnson & Company feel that vitamin therapy, like infant feeding, should be in the hands of the medical profession, and consequently refrain from exploiting vitamins to the public.

ARTICLES ACCEPTED

To the Editor:

In addition to the articles enumerated in our letter of June 31 the following have been received:

Endo Products, Inc.

Ampoules Camphor In Oil—Endo, 0.2 Gm. (3 grains), 1 cc.

Ampoules Camphor In Oil—Endo, 0.2 Gm. (3 grains), 2 cc.

Flint, Eaton & Co.

Tablets Sulfanilamide, 5 grains.

Lederle Laboratories.

Tuberculin Patch Test (Vollmer).

Solution Liver Extract Parenteral—Lederle, 10 cc, vial. Eli Lilly & Co.

Ampoule Solution Liver Extract—Lilly, 15 U.S.P. units per cc, 10 cc, size.

Ampoule Solution Liver Extract—Lilly, 2 U.S.P. units per cc, 3.5 cc, size.

Wm. S. Merrell Company.

Thiamine Hydrochloride—Merrell.

Thiamine Hydrochloride Tablets—Merrell, 1.0 mg.

Thiamine Hydrochloride Tablets—Merrell, 3.0 mg.

- Ampuls Solution Thiamine Hydrochloride—Merrell,
1.0 mg., 1 cc.
Ampuls Solution Thiamine Hydrochloride—Merrell,
6.0 mg., 1 cc.
Ampuls Solution Thiamine Hydrochloride—Merrell,
10.0 mg., 1 cc.
E. R. Squibb & Sons.
Follutein—Squibb.
Vials Follutein—Squibb, 500 International Units.
Vials Follutein—Squibb, 1000 International Units.
Vials Follutein—Squibb, 5000 International Units.
U. S. Standard Products Co.
Pituitary Solution, U.S.P.
Ampuls Pituitary Solution, U.S.P., 1 cc.
Ampuls Pituitary Solution, U.S.P., ½ cc.
Vials Pituitary Solution, U.S.P., 10 cc.
Vials Pituitary Solution, U.S.P., 30 cc.
John Wyeth & Brother, Inc.
Tablets Sulfanilamide, 5 grains.
Tablets Sulfanilamide, 7½ grains.
Tablets Sulfanilamide, 10 grains.
The following products have been accepted for inclusion in the List of Articles and Brands Accepted by the Council But Not Described in N.N.R. (New and Non-official Remedies, 1940, p.):
Lakeside Laboratories.
Ampules Quinine and Urea Hydrochloride—Lakeside,
5%, 2 cc. (for intravenous use).
Ampules Quinine and Urea Hydrochloride—Lakeside,
1%, 1 cc. (for subcutaneous use).
Ampules Quinine and Urea Hydrochloride—Lakeside,
1%, 5 cc. (for subcutaneous use).
PAUL NICHOLAS LEECH, *Secretary,*
Council on Pharmacy and Chemistry, American
Medical Association.
Chicago, Ill., September 1, 1940.
- Tablets Sulfanilamide—Endo, 5 grains.
Tablets Sulfanilamide—Endo, 7½ grains.
The National Drug Co.
Parenteral Solution of Liver, 10 cc. Ampul Vials,
5 U.S.P. Injectable Units per cc.
Parenteral Solution of Liver, 10 cc. Ampul Vials,
10 U.S.P. Injectable Units per cc.
Parke, Davis & Co.
Capsules Sulfapyridine, 0.25 Gm. (3¾ grains).
Riedel-de Haen, Inc.
Pernoston Sodium.
Ampules Pernoston Sodium, 10%, 2 cc.
Smith-Dorsey Company.
Phenobarbital Tablets 0.1 Gm. (1½ grains).
Tablets Aminophyllin 0.1 Gm. (1½ grains).
Frederick Stearns & Co.
Tablets Thiamine Hydrochloride, 5 mg.
Tablets Thiamine Hydrochloride, 10 mg.
E. R. Squibb & Sons.
Solution Thiamine Chloride—Squibb, 5 cc. Vial, 100
mg. per cc.
Upjohn Company.
Hypodermic Tablets Procaine Hydrochloride 0.5 Gm.
Hypodermic Tablets Procaine Hydrochloride 0.02 Gm.
(1/3 grain) with Epinephrine 0.025 mg. (1/2500
grain).

PAUL NICHOLAS LEECH, *Secretary,*
Council on Pharmacy and Chemistry, American
Medical Association.

Chicago, Ill., October 17, 1940.

TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Antipneumococcic Rabbit Serum, Therapeutic, Type I—Gilliland.—Prepared by immunizing rabbits with intravenous injections of virulent cultures of type I pneumococcus. The product is refined and concentrated by a method perfected in the firm's laboratories. The usual sterility and safety tests are carried out in accordance with the requirements of the National Institute of Health. The potency of the product is expressed in terms of the unit as described by Felton. The serum is marketed in ampule packages, each containing 20,000 units or 50,000 units of type I pneumococcus antibody. The Gilliland Laboratories, Inc., Marietta, Pa.

Antipneumococcic Serum Rabbit Serum, Type I. Concentrated.—Prepared from the blood of rabbits which have been immunized by repeated injections of type I pneumococci, according to the procedure suggested by Horsfall, Goodner, MacLeod and Harris (J.A.M.A. 103:1483, May 1, 1937). The final product contains merthiolate 1 in 10,000 and 0.2 per cent of phenol. Marketed in packages of one vial containing 20,000 units and one vial containing 5 cc. of the same serum diluted (1:100) for the sensitivity test. E. R. Squibb & Sons, New York.

Antipneumococcic Rabbit Serum, Therapeutic, Type II.—Prepared by immunizing rabbits with intravenous injections of virulent cultures of type II pneumococcus. The product is refined and concentrated by a method perfected in the firm's laboratories. The usual sterility and safety tests are carried out in accordance with the

To the Editor:

In addition to the articles enumerated in our letter of September 4 the following have been accepted:

- Abbott Laboratories.
Bismo-Cymol, 60 cc. Bottle.
Bismo-Cymol, 500 cc. Bottle.
Ampoules Procaine Hydrochloride 1%, W/V, 1½ cc.
Ampoules Procaine Hydrochloride, 1%—Epinephrine
1:50,000 Solution 2 cc.
Butyn Sulfate Tablets, 25 mg.
Cheplin Biological Laboratories.
Cheplin's Solution of Sodium Cacodylate with Benzyl
Alcohol.
0.05 Gm. (¾ grain), 30 cc. vial;
0.2 Gm. (3 grains), 30 cc. vial;
0.3 Gm. (5 grains), 30 cc. vial;
0.5 Gm. (7½ grains), 30 cc. vial;
0.065 Gm. (1 grain), 1 cc.
Endo Products, Inc.
Ampoules Mercury Succinimide, 0.01 Gm. (1/6 grain),
1 cc.
Ampoules Sodium Thiosulfate Solution 0.5 Gm. in
5 cc.
Ampoules Sodium Thiosulfate Solution 1.0 Gm. in
10 cc.

requirements of the National Institute of Health. The potency of the product is expressed in terms of the unit as described by Felton, the unit being one-one hundred and fiftieth cc. of the control serum distributed by the National Institute of Health. The serum is marketed in ampule packages, each containing 20,000 units or 50,000 units of type II pneumococcus antibody. The Gilliland Laboratories, Inc., Marietta, Pa.

Antipneumococcic Rabbit Serum, Therapeutic Type V. Prepared by immunizing rabbits with intravenous injections of virulent cultures of type V pneumococcus. The product is refined and concentrated by a method perfected in the firm's laboratories. The usual sterility and safety tests are carried out in accordance with the requirements of the National Institute of Health. The potency of the product is expressed in terms of the unit, based on satisfactory protection tests in mice. The unit is one-five hundredth cc. of the control serum distributed by the National Institute of Health, for type V pneumococcus antibody. The serum is marketed in ampule packages, each containing 20,000 units or 50,000 units of type V pneumococcus antibody. The Gilliland Laboratories, Marietta, Pa.

Antipneumococcic Rabbit Serum, Therapeutic, Type VII.—Prepared by immunizing rabbits with intravenous injections of virulent cultures of type VII pneumococcus. The serum is refined and concentrated by a method perfected in the firm's laboratories. The usual sterility and safety tests are carried out in accordance with the requirements of the National Institute of Health.

GEORGIA PEDIATRIC SOCIETY SCIENTIFIC MEETING, POMPEIAN ROOM, BILTMORE HOTEL, ATLANTA DECEMBER 12, 1940

Officers of the Georgia Pediatric Society

R. C. McGahee, M.D., President
E. N. Gleaton, M.D., President-Elect
J. Harry Lange, M.D., Vice-President
Don F. Cathcart, M.D., Secretary-Treasurer

Scientific Committee

Joseph Yampolsky, M.D., Atlanta, Chairman
W. W. Anderson, M.D., Atlanta
C. Dixon Fowler, M.D., Atlanta

12:30 P.M.—*Luncheon*

2:00 P.M.—*Afternoon Session, Pompeian Room*

1. The Prognostic Value of Renal Function Tests in Nephritis. Lee Edward Farr, M.D., Director of Research, Alfred I. DuPont Institute, Wilmington, Delaware.
2. The Handicaps of Prematurity and How to Meet Them. Samuel Zachary Levine, M.D., Professor of Pediatrics, Cornell University Medical College, New York.
3. The Manifestations of Rheumatic Fever in Childhood. Edward F. Bland, M.D., Instructor of Medicine, Harvard Medical School and Assistant Physician, Massachusetts General Hospital, Boston, Massachusetts.

6:30 P.M.—*Banquet, Pompeian Room.*

7:45 P.M.—*Evening Session, Pompeian Room.*

1. Address of Welcome
 - a. Allen H. Bunce, M.D., President-Elect Medi-

cal Association of Georgia.

- b. C. W. Roberts, M.D., President Fifth District Medical Society.

- c. Charles E. Rushin, M.D., President Fulton County Medical Society.

2. Response to Address of Welcome

- a. Mercer Blanchard, M.D., Columbus, Ga., Past President Georgia Pediatric Society.

3. The Role of Diet in the Therapy of Nephritis. Lee Edward Farr, M. D.

Introduction: J. P. Hanner, M.D., Atlanta, Ga.

4. Water and the Growing Organism. Samuel Zachary Levine, M.D.

Introduction: Joseph Yampolsky, M.D., Atlanta, Georgia.

5. The Course of Rheumatic Heart Disease in Childhood and Adolescence. Edward F. Bland, M.D. Introduction: W. W. Anderson, M.D., Atlanta, Georgia.

6. Adjournment.

Officers of the Fulton County Pediatric Society

Stephen C. Redd, M.D., Atlanta, President
J. Harry Lange, M.D., Atlanta, Vice-President
C. Dixon Fowler, M.D., Atlanta, Secretary
Local Arrangement Committee

Roger W. Dickson, M.D., Atlanta, Chairman
T. F. Davenport, M.D., Atlanta
James P. Hanner, M.D., Atlanta

NO KNOWN MEDICINE ACTS DIRECTLY ON THE GERMS OF TUBERCULOSIS

"As far as is known, there is no medicine that acts directly on the tubercle bacillus in vivo or uniformly increases the defense reaction of the body," Allan J. Hruby, M.D., Chicago, declares in *The Journal of the American Medical Association* for Sept. 16.

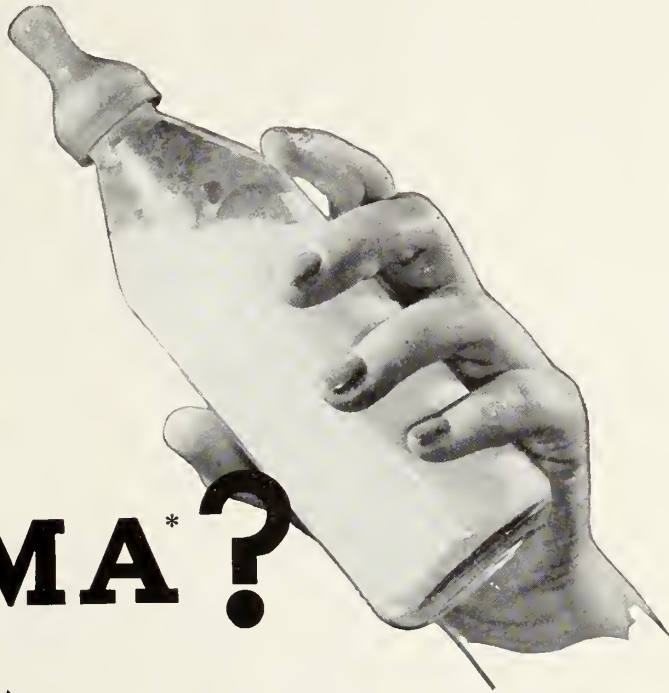
Drug treatment in pulmonary tuberculosis embraces three distinct fields, Dr. Hruby says, the treatment of symptoms, complications and of associated diseases.

"The treatment of the complications and associated diseases leads into every province of medicine," he states. "To meet the indications as they arise, the sanatorium of today has become a highly specialized institution with a staff of visiting consultants capable of treating competently all nontuberculosis conditions, surgical and medical, that afflict the consumptive in addition to the 'primary malady.'"

"Fresh air, good food, high caloric, high mineral and high vitamin diets stressing vitamins A, B, C and D, sunshine, heliotherapy (sunshine treatment) for extrapulmonary lesions, postural change for drainage of cavities, rest in its various implications, complete bed rest, localized immobility through the medium of shot bags, corsets and other nonmedical or surgical procedures, psychic rest as well as physical, occupational treatment and other measures designed to complement rest of the body by promoting repose of the mind—this constitutes routine treatment."

As to the outlook for the future, Dr. Hruby states that: "The chief hope for a specific treatment in the future lies in research which should extend along lines of study directed toward the development of a drug that will stimulate the body's defense reactions."

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" " "

*S.M.A., a trade mark of S.M.A. Corporation, for its brand of food especially prepared for infant feeding—derived from tuberculin-tested cow's milk, the fat of which is replaced by animal and vegetable fats, including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride; altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrates and ash, in chemical constants of the fat and physical properties.



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A DISTINGUISHED ATLANTAN

All Atlanta has known, for years, that in Dr. Dan C. Elkin this city possessed one of the greatest of living surgeons. It was, therefore, with no particular surprise, but extreme pleasure, that the city learned, this week, the Matas Award for distinguished work in vascular surgery had been bestowed upon Dr. Elkin.

The Matas Award was established in the name of the world-renowned surgeon, Dr. Rudolph Matas, of New Orleans. Given only for extraordinary surgical achievement, only two have received it prior to Dr. Elkin. The other recipients are Dr. Mont R. Reid of the University of Cincinnati, in 1934, and Dr. Reynoldo dos Cantos, of the University of Lisbon, Portugal, in 1937.

Dr. Elkin did his undergraduate work at Yale, then entered the Emory University School of Medicine. He is now a member of the Emory medical faculty and holds the Whitehead chair of surgery.

He receives the Matas Award for his remarkable success in the treatment of wounds of the heart. The astonishing operation, sewing together a wound in the beating human heart, has been successfully performed at Grady hospital a score or more of times, by Dr. Elkin, and the majority of these patients are today alive and well.

Dr. Elkin well deserves the honor bestowed upon him and there is additional gratification in Atlanta because of this recognition of the genius of one of her most distinguished sons.

—Atlanta Constitution, Atlanta, Oct. 18, 1940.

DR. KELLY TELLS WHY GEORGIA NEEDS STATE GENERAL HOSPITAL

Several reasons why Georgia should provide general hospital services for patients throughout the state were outlined yesterday by Dr. G. Lombard Kelly, dean of the University of Georgia School of Medicine.

"One of the principal reasons is that many such patients are unable to provide for themselves and live in communities where no provision is made by the municipal or county government for their treatment, moreover in many sections there are no suitable facilities for caring for such patients."

Dr. Kelly said there are many patients in the State Prison at Reidsville who require the services of specialists.

"Many of their patients could probably be restored to health and to useful lives if given proper medical and surgical treatment."

The third reason is that the state should contribute to the support of the teaching hospital of its School of Medicine where there is an ever increasing demand for places for students who can not be enrolled because there are not sufficient patients to be used for teaching purposes.

"Quite frequently letters are received from physicians and from patients' families throughout the state begging for hospitalization of individuals who are often in a most pitiable condition as a result of disease, accidents, severe burns, etc. Many lives could be saved each year by taking care of these unfortunate citizens.

"It is certain that such provision by the State would be most heartily welcomed by the public and physicians

alike. It would be a forward step of incalculable value and importance.

"The economy committee of the last legislature, which cut everything to the bone, took the sensible and commendable, though rather unusual action, of recommending that the next legislature appropriate \$50,000 for hospitalization of general medical and surgical cases in the hospital affiliated with the University of Georgia School of Medicine in Augusta.

"With our excellent roads it would be a simple matter to bring such patients to this medical center for careful diagnosis and modern up-to-date treatment. It is much to be desired that the next legislature will act favorably on this fine recommendation made by the economy committee."

—Augusta Herald, Augusta, Ga., October 6, 1940.

VITAMIN-FREE FOODS FOR RESEARCH!

A recent announcement by the Research Laboratories of the S. M. A. Corporation reveals that they are now in a position to provide vitamin-free casein and other vitamin-free foods for experimental purposes to researchers who have previously been obliged to manufacture these items for private use.

For many years the S. M. A. Corporation has been producing these foods exclusively for use in their laboratories. Now, with the expansion of their own facilities and the realization of the convenience to others engaged in laboratory work this offer is made to provide vitamin-free diets at an exceptionally reasonable cost. Quantities of one, five, ten or 100 pounds or more may be ordered directly from the Research Laboratories, S. M. A. Corporation, Chagrin Falls, Ohio.

FOR SALE

For Sale—Beck-Lee short wave diathermy, purchased new by owner; equipment includes Willimac and Plank electro-coagulating units; electro-surgical knife; new electrodes purchased 1940. Price \$65. Can be seen by appointment.

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Number 12

TREATMENT OF PNEUMONIA IN ADULTS WITH SULFAPYRIDINE

J. FLETCHER HANSON, M.D.
Macon

With the advent of sulfapyridine in medicine the chemotherapeutic conquest of pneumonia has made rapid and dramatic strides. This compound, whose chemical composition is 2-(p-aminobenzenesulfonamido)pyridine, was first prepared in the chemical research laboratories of Messrs. May and Baker, Limited, in Dagenham, England. The first mention on its use, experimentally, occurred in the British literature with the work of Whitby², who in May, 1938, introduced the drug under the laboratory designation of "M & B 693." In January, 1939, the Council on Pharmacy and Chemistry of the American Medical Association, adopted the designation of sulfapyridine as the nonproprietary name for the drug in this country. It has become known also under the trade name of Dagenan.

Like sulfanilamide from which it is derived chemically, its effectiveness is being determined in a large group of bacterial infections and especially so in the pneumococcal infections.

That sulfapyridine could be used in pneumonia in man was demonstrated by Telling and Oliver³, English investigators, who, in June, 1938, treated successfully a patient with type III massive pneumonia, with massive collapse.

In July, 1938, Evans and Gaisford⁴ reported a series of 100 patients with pneu-

monia treated at the Dudley Road Hospital in Birmingham, England. These authors ran a control series of 100 additional cases. The mortality rate in the treated group was 8 per cent, while in the untreated group it was 27 per cent. Routine typing of the sputum and x-ray examinations were not done on all their patients. They employed an initial oral dose of 2 Gm., followed by 1 Gm., every four hours until a total dose of 25 Gm., were given. Following this work quite an extensive bibliography has appeared in the British literature^{5, 12} concerning the use of sulfapyridine in pneumonia.

The first clinical report in the American literature on the use of sulfapyridine in the treatment of patients, ill with pneumonia, was made by Flippin and Pepper¹⁴ in October, 1938. They successfully treated 4 adult patients with lobar pneumonia. One of these patients received serum along with the sulfapyridine. Following this work, Flippin, Lockwood, Pepper and Schwartz¹⁵, in February, 1939, reported a series of 100 cases of typed pneumococcic pneumonias, with a mortality rate of 2 per cent. Three of these deaths were in type III cases. These observers used essentially the same dosage schedule as was adopted by Evans and Gaisford, with the exception that each of their patients received only 15 Gm. as the total dose. Like Evans and Gaisford, these authors observed a critical drop in the temperature of their patients within 24 to 48 hours, followed by prompt clinical improvement. The reports of various other American writers^{16, 28} further extend our knowledge of the use of sulfapyridine in pneumonia.

The literature on the use of sulfapyridine in pneumonia has become quite extensive. In this paper the author does not attempt a complete review of the literature. Only

From the Department of Internal Medicine, Macon Hospital, Macon.

Read before the Medical Association of Georgia, Savannah, April 25, 1940.

We are indebted to Merck and Company, for the sulfapyridine used in approximately one-half of the cases in this series.

We wish to thank Dr. C. L. Ridley, superintendent of the Macon Hospital, the visiting staff, the nursing staff and the technical staff for their cooperation and help, which made this work possible.

selective articles are included in the present bibliography.

PLAN OF THE INVESTIGATIVE STUDY

The present investigation includes a series of 30 cases. Every detail of the treatment of each patient was supervised by the author. Of this group 1 patient was treated at a private hospital, and the remaining patients were observed on the medical wards of the Macon Hospital. The period of observation for the entire group extended from February 19 to June 12, 1939. Each patient received essentially the same type of diet, nursing care and medication, other than sulfapyridine.

Selection of Patients. The criterion of selecting patients was that their pneumonia be verified by history, physical and x-ray examinations. Upon admission to the wards each patient received a routine typing of sputum, blood culture, complete blood count, urinalysis and Wassermann test. Patients in all stages of pneumonia were included in the series. Bronchial as well as lobar pneumonias were included. While the majority of our patients had pneumonias in which the type was identified, others had pneumonias in which the type was not identified. Every patient had x-ray evidence of consolidation before they were included in the series, regardless of physical findings or other laboratory findings.

In the selection of patients no discrimination was made on a basis of probability of recovery, or complications which might affect the outcome of the disease. No patient was included in the series, however, who did not live at least 24 hours after receiving the first dose of the drug.

Dosage Schedule. The routine administration of the drug consisted in giving an initial oral dose of 2 Gm., followed by 1 Gm. every four hours until a total dose of 25 Gm. was given. This schedule, which was modified in several cases, was adopted for both early and late cases. If severe nausea and vomiting occurred the drug was omitted for a few doses. If nausea and vomiting became severe again, after the drug was readministered, it was discontinued permanently before the full dose of 25 Gm. was given. In those patients in

whom there was a secondary rise in temperature, after the full dose of 25 Gm. had been given, the drug was readministered until a normal temperature was obtained. The total amount of sulfapyridine given in such cases is described in the report of the series.

REPORT OF SERIES

A descriptive resume of the series, in adults, is given in the summary of case reports, table 1. The series included 4 white male patients, 4 white female patients, 16 Negro male patients, and 6 Negro female patients. The age limits varied from 16 to 68 years.

The days of illness, before entering the hospital, varied from 1 to 30 days.

The site of pneumonia in the involved lung is given in the table. There was only one incidence of spread of the pneumonia to another lobe, this being in case 15.

The drug was given for a period of 4 days to the majority of the patients. The usual total dose was 25 Gm. There were modifications of this dosage schedule, however. In case 1, a Negro woman, aged 27 years, only 19 Gm. were given, due to extreme nausea and vomiting. The drug was omitted for several doses in this patient and was even tried by rectum. Nausea and vomiting occurred again when it was resumed and it was then discontinued permanently. In case 4, a white physician, aged 47 years, only 11 Gm. were given, due to severe nausea and vomiting. There were several incidences in which more than the usual total dose of 25 Gm. was given. In case 13, a white man, aged 36 years, a total dose of 54 Gm. was given, due to a continued elevation of temperature, between 37.8 to 38.4 C. (100 and 101 F.). The temperature eventually returned to normal under the influence of the drug. In case 15, a white student nurse, aged 18 years, a total dose of 50 Gm. was given, due to relapses and spread of the disease from the left lower lobe to the left upper lobe. The patient weighed 44.5 Kg. There were no toxic effects noted, except for slight cyanosis, moderate nausea and vomiting. The drug had no ill effects upon her blood or urine, except for causing a slight anemia. In case 18, a

Case	Sex	Age	Race	Days 111	Lobes Involved	Spread to other Lobes	Days Drug Given	Amount of Drug	Hour Drop in Fever	Days of Fever in Hosp.	X-Ray	Type from Sputum	Blood Culture	Toxic Symptoms	Complica- tions	Death
1	F	27	N	4	Right Upper	None	3	19 Gm.	8	6	Pos.	XIX	Neg.	Nausea 4 plus Vomiting 4 plus	Preg- nancy	
2	M	47	W	5	Right Upper and Middle	None	4	25 Gm.	12	5	Pos.	VII	Pos.	Cyanosis Delirium	Bacte- remia	Yes
3	M	26	N	2	Right Upper	None	4	25 Gm.	6	1	Pos.	VII	Neg.	Nausea 4 plus Vomiting 4 plus	Syphilis	
4	M	36	N	4	Broncho Diffuse	None	4	25 Gm.	64	3 2/3	Pos.	Neg.	Neg.	Nausea 1 plus Vomiting 1 plus	None	
5	M	18	N	1	Right Middle	None	4	25 Gm.	48	5	Pos.	Neg.	Neg.	Nausea 1 plus Vomiting 1 plus	Syphilis	
6	F	22	N	7	Left Upper and Lower	None	4	25 Gm.	48	3	Pos.	I	Neg.	Nausea 1 plus Vomiting 1 plus	Syphilis	
7	F	68	W	4	Right Lower	None	4	25 Gm.	12	5	Pos.	III	Neg.	Nausea 4 plus Vomiting 4 plus	Hyper- tension	
8	F	59	W	21	Broncho Diffuse	None	4	25 Gm.	36	2 3/6	Pos.	Neg.	Neg.	Nausea 2 plus Vomiting 2 plus	Chronic Aleukemia Lymphatic Leukemia	
9	M	47	W	1	Left Hilus	None	2	11 Gm.	28	5	Pos.	IV	Neg.	Nausea 2 plus Vomiting 2 plus	None	
10	M	16	N	4	Right Upper	None	4	25 Gm.	36	4	Pos.	Neg.	Neg.	Nausea 1 plus Vomiting 1 plus	Syphilis	
11	M	35	N	14	Right Upper	None	4	25 Gm.	24	1	Pos.	VII	Neg.	Nausea 1 plus Vomiting 1 plus	Syphilis	
12	M	33	N	6	Right Upper	None	4	25 Gm.	76	3 1/6	Pos.	Neg.	Neg.	None	Hypertension Syphilis	
13	M	36	W	1	Right Lower	None	8	54 Gm.	56	7 2/6	Pos.	Neg.	Neg.	Nausea 4 plus Vomiting 4 plus	None	
14	F	20	W	4	Right Upper Left Lower	None	4	25 Gm.	8	2/6	Pos.	IV	Neg.	Nausea 4 plus Vomiting 4 plus	None	
15	F	18	W	2	Left Upper and Lower Right Middle	Yes	8	50 Gm.	56	26	Pos.	Neg.	Neg.	Nausea 2 plus Vomiting 2 plus Cyanosis 1 plus	None	

TABLE 1—Summary of 30 Cases of Pneumonia in Adults Treated with Sulfapyridine.

TABLE 1—Continued.

Case	Sex	Age	Race	Days 111	Lobes Involved	Spread to other Lobes	Days Drug Given	Amount of Drug	Hour of Drop in Fever	Days of Fever in Hosp.	X-Ray	Type from Sputum	Blood Culture	Toxic Symptoms	Complica- tions	Death
16	M	46	N	2	Broncho Diffuse	None	4	25 Gm.	64	3	Pos.	Neg.	Neg.	Nausea 2 plus Vomiting 2 plus	Syphilis	
17	M	35	N	1	Right Middle	None	10	39.5 Gm.	28	3 3/6	Pos.	Neg.	Neg.	Nausea 2 plus Vomiting 1 plus		
18	M	33	N	4	Left Upper and Lower	None	12	75 Gm.	24	25	Pos.	1	Neg.	Nausea 2 plus Vomiting 2 plus	Emphyema	
19	F	26	N	3	Right Upper and Middle	None	4	25 Gm.	24	2	Pos.	I	Neg.	Nausea 2 plus Vomiting 1 plus		
20	F	49	N	5	Right Upper	None	4	25 Gm.	24	2	Pos.	III	Neg.	Nausea 1 plus Vomiting 1 plus	Mumps	
21	M	23	N	4	Left Upper	None	4	25 Gm.	48	2	Pos.	VII	Neg.	Nausea 1 plus Vomiting 0	Syphilis	
22	M	26	N	5	Right Upper and Middle	None	4	25 Gm.	28	1 3/6	Pos.	Neg.	Neg.	None		
23	M	45	N	2	Right Lower	None	4	25 Gm.	28	1 4/6	Pos.	VII	Neg.	Nausea 1 plus Vomiting 0	Syphilis	
24	M	38	N	4	Right Upper	None	11	36 Gm.	76	6	Pos.	Neg.	Neg.	Nausea 0 Vomiting 0	None	
25	M	31	N	2	Right Upper	None	4	25 Gm.	48	3	Pos.	XX	Neg.	Nausea 1 plus Vomiting 1 plus	None	
26	M	19	N	1	Left Lower	None	6 3/6	40 Gm.	28	1 1/6	Pos.	Neg.	Neg.	None	None	
27	M	22	N	6	Left Lower	None	6	36 Gm.	24	1	Pos.	XXI	Neg.	Nausea 1 plus Vomiting 1 plus	Syphilis Icterus	
28	F	32	N	30	Left Upper and Lower	None	6	36 Gm.	72	9	Pos.	Tubercle Bacilli	Neg.	Nausea 2 plus Vomiting 2 plus	None	
29	F	35	N	7	Left Upper and Lower	None	4	25 Gm.	None	5	Pos.	XIV	Pos.	Nausea 1 plus Vomiting 1 plus	Syphilis Uremia Pericarditis	Yes
30	M	54	W	6	Right Upper	None	4	25 Gm.	16	2	Pos.	Neg.	Neg.	Moderate Mental Confusion	None	

TABLE 1.—Summary of 30 Cases of Pneumonia in Adults Treated with Sulfapyridine.

Negro man, aged 33 years, who weighed 54 Kg., a total dose of 75 Gm. was given due to relapses, after intervals of normal temperature. This patient developed empyema. The left thoracic cavity was aspirated and thin, green-grey pus was obtained. Cul-

ture of this pus revealed a pneumococcus of type I, which was identical in type with that previously found in his sputum. After resection of a rib and drainage of the empyema, his recovery was uneventful. There were no significant toxic manifestations observed, except for moderate nausea and vomiting. His blood and urine remained essentially unchanged. So far as we can determine in the literature this is the largest total dose of sulfapyridine which has been given without toxic effects to a patient ill with lobar pneumonia. For patients 13, 15, 17, 24, 26, 27 and 28, total amounts of 54 Gm., 50 Gm., 39.5 Gm., 36 Gm., 40 Gm., and 36 Gm., respectively, were given.

The character of the fever observed in our patients was of interest. We were impressed by the short duration of time required for the temperature to return to normal, after the initial dose of the drug. In 16 per cent of patients there was a critical drop in the temperature to normal within 6 to 12 hours; in 36 per cent the temperature was normal within 24 hours and in 73 per cent the temperature was normal within 48 hours, while in 96 per cent the temperature was normal within 76 hours. Many of these patients were critically ill before receiving sulfapyridine, and in 24 hours appeared to be much less toxic. Other patients appeared as if they had not been ill. With a return of the temperature to normal, in certain patients, there was a rapid diminution of physical signs and evidences of consolidation, as revealed by x-ray.

The days of fever in the hospital, in the majority of cases, were comparatively few. In some patients the fever lasted only 24 to 48 hours; in others it was of longer duration as seen in the table. In case 15, there were 26 days of fever due to spread of the disease to another lobe, while in case 18, the fever lasted 25 days due to empyema complicating the pneumonia.

In case 2, a white man, aged 47 years, the culture revealed a pneumococcus of type VII. This patient died after receiving a total dose of 25 Gm. In case 29, a Negro woman, aged 35, the culture revealed a pneumococcus of type XIV. She died after receiving a total dose of 25 Gm. In case 28,

a Negro woman, aged 32, the tubercle bacillus^{10 11 13} was found in the sputum; a diagnosis of tuberculous bronchopneumonia was made. There was a drop in her temperature to normal within 72 hours, with a subsequent rise. Sulfapyridine was without subsequent beneficial effects in this patient and she was discharged while still in a febrile stage.

The sputum was typed on each patient. The pneumococcus was identified in 16 patients. The types identified were as follows:

Type	No. Cases
I	3
II	2
IV	2
VII	5
XIV	1
XIX	1
XX	1
XXI	1

Of diseases complicating the pneumonias, there were 11 incidences of syphilis, in the 22 Negro patients of the series. The Wassermann test was rechecked in these patients at intervals of 1 to 3 months, after the use of sulfapyridine, and a positive reaction persisted in each patient. There were three incidences of hypertension, and one incidence of chronic aleukemic lymphatic leukemia. Case 29, the Negro woman who died, was complicated by hypertension, chronic nephritis, uremia, pericarditis and syphilis.

The outstanding toxic symptoms were nausea and vomiting. Practically all patients, white and Negro, had some degree of nausea and vomiting. In 2 patients it was severe and treatment had to be discontinued permanently. In 6 patients of the series, or 20 per cent, there was no nausea or vomiting. Drug rashes were not seen. Slight cyanosis occurred in patients 2 and 15. It was difficult to determine the presence of cyanosis in the Negro patients. Hence a moderate degree of such may have been overlooked. No incidences of agranulocytosis or acute hemolytic anemia occurred.

No toxic effects of the drug upon the kidneys as reflected in urine examinations were observed, which could not have been

consistent with the findings in an acute febrile disease. Evidence of renal damage did not occur even in patients 15 and 18, who received 50 Gm. and 75 Gm. of the drug, respectively. We did observe hematuria²⁶ and practically anuria in a white girl, aged 18 years. She had taken 10 Gm. of sulfapyridine in the home because of pneumonia. She was admitted to the hospital 24 hours after the last dose of sulfapyridine. Her temperature at that time was normal. The urine was grossly bloody and showed a heavy trace of albumin. The non-protein nitrogen of the blood was 39.5 mg. For several days she excreted only a few ounces of urine, although the intake of fluid was high. The blood and albumin rapidly disappeared from the urine. The non-protein nitrogen dropped to 21.9 mg., and complete recovery followed. This patient was not included in the series because we did not treat her during the early stages of her pneumonia.

The effect of sulfapyridine upon the blood was observed with care. A daily complete blood count was obtained from practically every patient of the series. A slight to moderate anemia was not uncommon during and immediately after the administration of the drug. The anemia in most patients was usually transient and in some instances it disappeared before the drug was discontinued. In others the anemia disappeared in several days, after the drug was stopped; in 12 patients the red cell count varied from a few cells to 500,000; in 6 it varied from 500,000 to 1,000,000 cells; in 2 it varied from 1,000,000 to 1,500,000 cells and in 1 it was 1,610,000 cells. In 9 other patients no anemia occurred, there being a varying increase from a few cells to 500,000 or more. The maximum increase was 1,230,000 cells in case 19. The hemoglobin usually followed the rise or fall of the red cells. A decrease of 10 to 20 per cent was not unusual. The lowest estimation for the series was 24 per cent. In 11 patients, the hemoglobin increased above the original level, a rise of 10 to 20 per cent being observed. In case 19, a rise of 31 per cent occurred, along with an increase of 1,230,000 red cells.

There was a rather constant effect of sulfapyridine upon the white blood cells. Usually the total white count dropped from 30 to 70 per cent during or immediately after the use of the drug. No extreme drop in the white count below normal was noted. A count of 5,300 was the lowest observed in the series. This occurred in case 15, the white student nurse, who took 50 Gm. of the drug. In cases 7, 8 and 17 an increase in white cells of 32, 93 and 61 per cent, respectively, occurred. Case 8 was complicated by chronic aleukemic lymphatic leukemia. The effect upon the differential count was also rather constant. The usual response was a neutrophilic decrease and a lymphocytic increase of cells. In cases 6, 8 and 13, there was a reverse of these findings, there being a neutrophilic increase and a lymphocytic decrease of cells.

The effect of sulfapyridine upon the blood of case 8, a white woman, aged 59 years, was of interest to us. This patient had been treated in the out-patient tumor clinic, for chronic aleukemic lymphatic leukemia, approximately 2 months before her admission to the hospital. The blood picture at that time was essentially normal. She subsequently developed bronchopneumonia and was admitted to the hospital with a temperature of 40.8 C. (105.4 F.). The physical examination revealed essentially normal findings except for the pneumonia and a generalized glandular enlargement, which involved the glands of each side of the neck, both axillae and both groins. The larger glands of the neck measured 7 x 10 cm., those of the axillae 4 x 5 cm., and those of the groins 2 x 2 cm. The spleen was not palpable. The patient was given a total dose of 25 Gm. of sulfapyridine. Her temperature returned to normal within 36 hours of the initial dose. Her blood response was studied while taking the drug and, at intervals, for 46 days after its administration. The blood picture on entrance to the hospital, on March 13, revealed 66 per cent hemoglobin, 2,760,000 red cells and 54,000 white cells. The differential count revealed 23 per cent neutrophils, 76 per cent lymphocytes and 1 per cent monocytes. With sulfapyridine therapy from March 15-18,

there was a considerable increase in red cells over the initial count. The hemoglobin increased 13 per cent. The white cells increased to a maximal count of 113,700, followed by a gradual decline to 18,400. The differential count showed a slight increase in neutrophils and a slight decrease in lymphocytes. Subsequent daily counts from March 20-23, were made after the drug was discontinued. The red cells increased to a maximum of 4,470,000. The white cells dropped to 10,950. The differential counts revealed a considerable increase to 54 per cent neutrophils and a marked drop in lymphocytes to 41 per cent. On April 5, 18 days after the patient had received sulfapyridine, her hemoglobin was 60 per cent, the red cells 4,000,000 while the white cells showed a normal count of 7,200 cells. The differential count showed 48 per cent neutrophils, 42 per cent lymphocytes, 6 per cent monocytes and 4 per cent basophils. She was observed in the home on May 3, 46 days after having taken sulfapyridine. The patient was bedridden at this time. All of her lymph glands were considerably increased in size. The spleen was palpable 4 inches below the costal margin. Her temperature, pulse and blood pressure were normal. Blood examinations showed that her hemoglobin was 74 per cent, the red cells 3,910,000 and the white cells 10,650. The differential count showed 75 per cent neutrophils, 19 per cent lymphocytes, 5 per cent monocytes and 1 per cent basophils. We were greatly impressed to find that her blood picture was essentially normal at that time. This case is interpreted as being one of chronic aleukemic lymphatic leukemia which rapidly reverted to a leukemic state with the onset of the pneumonic infection. The blood smears revealed numerous leukemic leukocytes, of the chronic lymphatic leukemic type. There were also many toxic neutrophils and a shift to the left. We do not know whether sulfapyridine caused the quick return to the aleukemic state, as we have no knowledge of the action of this drug in leukemia.

The concentration of sulfapyridine in the blood was interesting and instructive. In patients receiving 1 Gm. every four

hours, the blood concentration varied from 4 to 22 mg. per cent of free sulfapyridine. An average concentration was 6 to 15 mg. We used the method described by Werner⁷ in the January, 1939, issue of the *Lancet*. After discontinuance of the drug, in patient 20, 5 days elapsed before it was eliminated from the blood stream. In other patients, the blood was free of the drug in 1 to 3 days. We could not predict the outcome of the disease by the concentration in the blood. Patients with concentrations of 4 to 10 mg. seemed to recover as readily as those with concentrations of 10 to 15 mg. or higher. Patient 18, complicated with empyema, had an average concentration of 10 mg.

MODE OF EXCRETION OF SULFAPYRIDINE IN ADULTS

To us, an exceedingly interesting study was made to determine how the concentration of sulfapyridine in the blood compared with the quantitative excretion of the drug in the urine. The author was unable to obtain from the literature any comprehensive data concerning simultaneous concentrations of sulfapyridine in the blood and in the urine of the patients, ill with pneumonia. Barnett¹⁸ and associates in their series of 14 cases of pneumonia in children, mention 2 cases in which quantitative studies were made on the excretion of sulfapyridine in the urine. In their case 17, a white girl, aged 5 years, weighing 17 Kg., the excretion over a 4-day period varied from 1.6 Gm. to 2.4 Gm. a day. The total excretion was 7.8 Gm. The intake was 14.4 Gm. The excretion amounted to 54 per cent of the intake. From 61 to 71 per cent of the drug appeared in the urine in the free form. In their case 18, a white boy, aged 10 years, weighing 24.4 Kg., the excretion in the urine varied from 1.7 Gm. to 2.5 Gm. a day. The total excretion over a period of 6 days was 12.1 Gm., while the intake was 21.6 Gm. The excretion amounted to 56 per cent of the intake. From 51 to 56 per cent of the drug appeared in the urine in the free form. Stokinger²⁰ writing in *The Bulletin* of the New York Academy of Medicine for April, 1939, describes the concentration of sulfapyridine in the blood and

urine of patients ill with pneumonia. In 6 patients in the latter part of our series in adults, simultaneous determinations were obtained upon the concentration of sulfapyridine in the blood and in the urine. We used the method described by Werner⁷. An estimation of the pH of the urine was done with each determination. Determinations were made at first upon specimens of blood and urine without collecting 24 hour volumes of urine.

In case 24, a Negro man, aged 38 years, to whom a maintenance dose of 0.5 Gm. twice a day was given, concentrations in the blood on 2 successive days were 2 mg., and a trace, respectively. The free sulfapyridine determinations were 15 mg. and 10 mg. The total determinations were 40 mg. and 25 mg. The pH determinations of the urine were 10 and 8 respectively.

In case 25, a Negro man, aged 31 years, to whom 1 Gm. of sulfapyridine was given every 6 hours, the blood concentrations on 2 successive days were 9 mg. and 4 mg. The urine concentrations on the same 2 days were 125 mg. and 110 mg. of free sulfapyridine and 300 mg. and 250 mg. of total sulfapyridine. The pH determinations of the urine were 6 and 8 respectively.

In case 29, a Negro woman, aged 35 years, who died of uremia and pericarditis as complications of her pneumonia, the blood concentrations on 4 successive days were 8 mg., 9 mg., 11 mg., and 9 mg. The free sulfapyridine in the urine was 100 mg., 125 mg., 125 mg., and 83 mg. The total sulfapyridine was 200 mg., 250 mg., 200 mg., and 200 mg. The pH of the urine was 8, 6, 6 and 5 respectively.

In case 26, a Negro boy, aged 19 years, the 24 hour urinary output was measured and the amounts of free and total sulfapyridine were determined in the urine. Determinations of the pH of the urine were run as well as blood concentrations, the specimens of blood being taken at the end of each 24 hour period. This patient was taking 1 Gm. of sulfapyridine every four hours. Estimations of the daily excretion of free and total sulfapyridine in grams were made. These estimations were com-

pared with the daily intake of sulfapyridine, estimated in grams.

		ON SULFAPYRIDINE			
SULFAPYRIDINE DETERMINATIONS	Date	4-29	4-30	5-1	5-2
	Blood	8	8	7	10
	URINE				
	pH	5	10	10	8
	Free	125	165	100	100
	Total	250	220	225	150
	Volume	1350	3000	1600	2000
	Amount	3.3	6.6	3.6	3.0

TABLE 2.—Excretion of Sulfapyridine in Case 26

As seen in table 2, the quantitative amounts of total sulfapyridine excreted daily, for 4 successive days were 3.3 Gm., 6.6 Gm., 3.6 Gm., and 3.0 Gm. The excretion over the 4 day period was 16.5 Gm. The intake was 24 Gm. The excretion amounted to 68 per cent of the intake. Approximately 62 per cent of the drug appeared in the urine in the free form. Sulfapyridine was discontinued in the patient on May 2. Daily estimations of the concentration of the drug in the blood, and in specimens of 24 hour volumes of urine, were continued. The concentration in the blood on May 6 was zero. The urine on that day showed 6 mg. of free and 15 mg. of total sulfapyridine. On May 7 the blood was still free of the drug while the urine showed 14 mg. of free and 29 mg. of total sulfapyridine. Both blood and urine were free of the drug on May 8. After discontinuing the drug, a period of 4 days were required for its complete elimination from the blood and 6 days for its complete elimination from the urine. Concentrations of sulfapyridine persisted in the urine in appreciable amounts for 2 days, after its concentration in the blood was zero. In cases 24 and 25, we also observed that appreciable amounts of sulfapyridine persisted in the urine for 2 to 3 days after it had been completely eliminated from the blood.

In case 27, a Negro man, aged 38 years, the 24 hour urinary output was measured. The pH of the urine, and the amounts of free and total sulfapyridine were determined. Samples of blood were taken at the end of each 24 hour period and the concentration of sulfapyridine determined. The patient was taking 1 Gm. every four

hours. As seen in table 3, the quantitative amounts of total sulfapyridine excreted daily, from May 5 to May 7, were 3 Gm., .63 Gm., and 1.9 Gm. The total excretion over this period of 3 days was 5.58 Gm. The intake was 18 Gm. The excretion amounted to 31 per cent of the intake. Approximately 50 per cent of the drug appeared in the urine in the free form. The drug was discontinued on May 7, and 2.6 Gm. were recovered in the urine before its elimination was complete. Appreciable quantities of sulfapyridine persisted in the urine for 3 days after it was completely eliminated from the blood.

		ON SULFAPYRIDINE							
SULFAPYRIDINE DETERMINATIONS	Date	5-5	5-6	5-7	5-8	5-9	5-10	5-11	
	Blood	3	4	3	0	0	0	0	
	URINE								
	pH	8	8	10	10	8	8	10	
	Free	100	20	50	25	Trace	8	0	
	Total	165	35	150	53	25	20	0	
	Volume	1850	1800	1300	2300	3400	3200	3400	
	Amount	3.05	0.63	1.9	1.2	0.85	0.64	0	

TABLE 3.—Excretion of Sulfapyridine in Case 27

		ON SULFAPYRIDINE													
Sulfapyridine Determinations	Date	5-19	5-20	5-21	5-22	5-23	5-24	5-25	5-26	5-27	5-28	5-29	5-30	5-31	6-1
	Blood	8	14	14	14	6	2	Trace	0	0	0	0	0	0	0
	URINE														
	pH	5	5	6	6		6	5	5	5	6	6	5	5	6
	Free	110	100	250	100		38	14	12	Trace	Trace	Trace	Trace	Trace	0
	Total	200	200	500	200		75	47	25	7	5	Trace	Trace	Trace	0
	Volume	800	1000	1000	1400		2150	1700	1050	1100	2000	2200	1250	1550	1800
	Amount	1.6	2.0	5.0	2.8		1.61	0.79	0.25	.07	.01	0	0	0	0
	Stool			Pos.	Pos.	Pos.	Pos.	Pos.	Trace	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
	Saliva				Pos.	Pos.	Pos.	Pos.	Trace	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
	Perspiration			50	66	Pos.	Pos.	Pos.	Pos.	Pos.	Pos.	Pos.	Trace	Trace	Trace

TABLE 4.—Excretion of Sulfapyridine in Case 30

There was a moderate degree of jaundice in this patient. An icterus index of 15 was obtained after the administration of sulfapyridine for 1 day. An index of 15 was obtained again after the use of the drug for 4 days. On May 9, after the use of the drug for 6 days and 24 hours after it had been discontinued, the index was 5. The Van den Bergh test run on May 10 was negative. Blood chemistry determinations on May 11 showed a non-protein nitrogen of 46 mg., creatinin 1.7 mg., sugar 76 mg., and chlorides 429 mg. This patient was purposely kept on sulfapyridine, in full doses for 6 days to determine its effect

upon the jaundice. A total dose of 36 Gm. was taken. Judging from the icterus indices obtained no demonstrable ill effects upon the liver were manifested. Clinically, the jaundice diminished during the administration of the drug.

In case 30, a white man, aged 54 years, the dosage schedule was 1 Gm. every four hours. The daily excretion of total sulfapyridine from May 20 to May 22, was 2 Gm., 5 Gm., and 2.8 Gm., respectively (table 4). The total excretion was 9.8 Gm. The intake was 18 Gm. The excretion amounted to 54 per cent of the intake. Approximately 50 per cent of the drug appeared in the urine in the free form. As seen in table 4, after the drug was discontinued, it persisted in the blood for 3 days before being completely eliminated. Appreciable quantities persisted in the urine for 3 days after its complete elimination for the blood. Traces of sulfapyridine were detected in the urine for 9 days after its use had been discontinued.

In this patient we also followed the daily

excretion of sulfapyridine in the stool, saliva and perspiration. Due to extreme hot weather, no difficulty was experienced in obtaining daily amounts of perspiration. From the table it is observed that while this patient was taking the drug, qualitative tests for sulfapyridine in the stool, saliva and perspiration were positive. We were unable to obtain any literature concerning the excretion of sulfapyridine in the stool, saliva and perspiration. Werner's⁷ method as advocated for the identification of sulfapyridine in blood and urine, was found to work satisfactorily for the identification of sulfapyridine in perspiration and saliva.

On June 21 and 22, quantitative estimations made upon the perspiration showed a concentration of 50 mg. and 66 mg. per cent of free sulfapyridine for each 100 cubic centimeters. For the identification of sulfapyridine in the stool, Marshall's¹ method, as advocated for the identification of sulfapyridine in blood and urine, was found to work satisfactorily for the identification of the drug in clear filtrates of stools. With the use of Werner's and Marshall's methods it was found, in studying this case, that the excretion of sulfapyridine in the stool and saliva continued for twenty-four hours, after it had been completely eliminated from the blood. Its excretion in the perspiration persisted for 4 days after it had been completely eliminated from the stool and saliva. The excretion of the drug in the perspiration could be detected after it had been completely eliminated from the urine. This would suggest that the excretion of sulfapyridine in the perspiration persists longer than through any other channel of excretion.

Three blood chemistry determinations were obtained on this patient. There was a moderate retention of non-protein nitrogen, while the drug was being administered. A moderate increase in non-protein nitrogen was observed also in other patients of this series, while they were taking sulfapyridine.

We were impressed with the observation that of the 3 adult patients, from whom the 24 hour volumes of urine were measured, 2 of them showed a reduction in the daily volume while the drug was being used (tables 2, 3 and 4). The volumes increased again when sulfapyridine was discontinued. In patient 27, as the volume of urine decreased, the amount of sulfapyridine excreted daily decreased.

SUMMARY

1. A series of 30 cases in adults, ill with pneumonia and treated with sulfapyridine, is reported.
2. There were two deaths.
3. We were impressed with the quick return to normal of the temperature in the majority of patients, within 6 to 48 hours after the initial dose of sulfapyridine.

4. The most significant toxic manifestations were nausea and vomiting.
5. A moderate anemia with a drop in hemoglobin of 10 to 15 per cent was not uncommon during the administration of sulfapyridine.
6. No serious complications as hemolytic anemia or agranulocytosis were observed. One case of empyema occurred.
7. Observations were made upon the mode of excretion of sulfapyridine in the blood, urine, stool, saliva, and perspiration.

BIBLIOGRAPHY

1. Marshall, E. K., Jr.: Determinations of Sulfanilamide in Blood and Urine, *J. Biol. Chem.* 122:263-273 (Dec.) 1937.
2. Whitby, L. E. H.: Chemotherapy of Pneumococcal and Other Infections with 2-(p-Aminobenzenesulfonamido) Pyridine, *Lancet* 1:1210-1212 (May 28) 1938.
3. Telling, M., and Oliver, W. A.: Case of Massive Pneumonia, Type III, with Massive Collapse, Treated with 2-(p-Aminobenzenesulfonamido) Pyridine, *Lancet* 1:1391-1393 (June 18) 1938.
4. Evans, G. M., and Gaisford, W. F.: Treatment of Pneumonia with 2-(p-Aminobenzenesulfonamido) Pyridine, *Lancet* 2:14-19 (July 2) 1938.
5. Flemming, A.: Treatment of Pneumonia, *Brit. M. J.* 2:37-38 (July 2) 1938.
6. Dyke, S. C., and Reid, G. C. K.: Treatment of Lobar Pneumonia with M & B 693, *Lancet* 2:1157-1160 (Nov. 19) 1938.
7. Werner, A. E. A.: Estimation of Sulfanilamide in Biological Fluids, *Lancet* 1:18-20 (Jan. 7) 1939.
8. Anderson, T. F., and Dowdeswell, R. M.: Treatment of Pneumonia with M & B 693, *Lancet* 1:252-255 (Feb. 4) 1939.
9. Agranat, A. L.; Dreosti, A. O., and Ordman, D.: Treatment of Pneumonia with 2-(p-Aminobenzenesulfonamido) Pyridine (M & B 693) *Lancet* 1:309-317 (Feb. 11) 1939. *ibid* 1:380-284 (Feb. 18) 1939.
10. Crawford, J. H.: Pneumococcal Pneumonia, Complicating Pulmonary Tuberculosis, Treated with M & B 693, *Brit. M. J.* 1:608-609 (March 25) 1939.
11. Deeny, James: M & B 693 in Phthisis, *Brit. M. J.* 1:696 (April 1) 1939 (in correspondence).
12. Alsted, G.: Type III Pneumococcal Pneumonia: Effect of M & B 693, *Lancet* 1:869-871 (April 15) 1939.
13. Brown, Herbert H.: M & B in Phthisis, *Brit. M. J.* 1:845-846 (April 22) 1939 (in correspondence).
14. Flippin, H. F., and Pepper, D. S.: The use of 2-(p-Aminobenzenesulfonamido) Pyridine in the treatment of pneumonia: A preliminary Report, *Am. J. M. Sc.* 196: 509-513 (Oct.) 1938.
15. Flippin, H. F.; Lockwood, J. S.; Pepper, D. S., and Schwartz, Leon.: The treatment of Pneumococcal Pneumonia with Sulfapyridine: A Progress Report of Observations in 100 Cases, *J. A. M. A.* 112:529-534 (Feb. 11) 1939.
16. Lawrence, E. A.: Type III Pneumococcus Pneumonia: The Effect of Para Aminobenzenesulfonamido Pyridine in Treatment, *New York State J. Med.* 39:22-25 (Jan. 1) 1939.
17. Long, P. H.: Sulfapyridine (Preliminary Report of the Council on Pharmacy and Chemistry), *J. A. M. A.* 112:538-539 (Feb. 11) 1939.
18. Barnett, H. L.; Hartmann, A. F.; Perley, A. M., and Ruhoff, M. B.: The Treatment of Pneumococcal Infections in Infants and Children with Sulfapyridine, *J. A. M. A.* 112:518-527 (Feb. 11) 1939.
19. Whittemore, W. L.; Royster, C. L., and Riedel, P. A.: Treatment of Lobar Pneumonia with Sulfapyridine, *New York State J. Med.* 39:540-543 (March 15) 1939.
20. Stokinger, H. E., Preliminary Report of the Use of Sulfapyridine in the Treatment of Pneumonia. The Absorption, Acetylation and Excretion of Sulfapyridine, *Bull. New York Acad. Med.* 15:252-254 (April) 1939.
21. Plummer, Norman; Ensworth, Herbert: Sulfapyridine in the Treatment of Pneumonia, *Bull. New York Acad. Med.* 15:241-248 (April) 1939.
22. Graham, Duncan; Warner, W. P.; Dauphinee, J. A., and Dickson, R. C.: The Treatment of Pneumococcal Pneumonia with Dagenan (M & B 693), *Canad. M. A. J.* 40:325-332 (April) 1939.
23. Meakins, J. C., and Hanson, F. R.: The Treatment of

- Pneumococcic Pneumonia with Sulfapyridine, *Canad. M. A. J.* 40:333-336 (April) 1939.
24. Finland, Maxwell; Spring, W. C.; Lowell, F. C., and Brown, J. W.: Specific Serotherapy and Chemotherapy of the Pneumococcus Pneumonias. *Ann. Int. Med.* 12: 1816-1829 (May) 1939.
 25. Kohlstaedt, K. G., and Page, Irving H.: The Treatment of Pneumococcic Pneumonia with Sulfapyridine, *J. Indiana M. A.* 32:273, 296 (May) 1939.
 26. Southworth, Hamilton, and Cooke, Crispin: Hematuria, Abdominal Pain and Nitrogen Retention Associated with Sulfapyridine, *J. A. M. A.* 112:1820-1821 (May 6) 1939.
 27. Williams, Robert H., and Morgan, Hugh J.: The Treatment with Sulfapyridine of Fifty Patients with Lobar Pneumonia, *South. M. J.* 32:601-608 (June) 1939.
 28. Pepper, D. S.; Flippin, H. S.; Schwartz, Leon, and Lockwood, J. S.: The Results of Sulfapyridine Therapy in 400 Cases of Typed Pneumococcic Pneumonia, *Am. J. M. Sc.* 198:22-35 (July) 1939.

DISCUSSION ON PAPER OF DR. FLETCHER HANSON

Dr. William P. Harbin, Jr. (Rome): I am pleased to have an opportunity to discuss Dr. Hanson's excellent paper. He is to be highly commended for his observations on the excretion of sulfapyridine. Of particular interest is his report of the effects of sulfapyridine on the blood of the patient with pneumonia and leukemia.

In the treatment of pneumonia with sulfapyridine the dosage used by those in our group varies slightly from that outlined by Dr. Hanson. Four grams are given as an initial dose and thereafter one gram every four hours until the patient's temperature returns to normal, after which one gram is given four times a day for approximately four days and then two grams are given daily for two or three additional days. If there is a secondary elevation of the temperature, the dose is increased but we do not have a fixed total dose to which we routinely adhere.

One complication worthy of mention is the effect of sulfapyridine on the urinary system. Hematuria and anuria are usually looked upon as the chief toxic effects of sulfapyridine. Concretions of sulfapyridine and acetyl sulfapyridine crystals have been found in the urinary tract after the administration of sulfapyridine. One death has been reported due to obstruction in the ureters caused by uroliths of sulfapyridine. Experimentally in animals, after the administration of sulfapyridine, it is reported that urinary calculi composed of this drug were found in two-thirds of those observed. These crystals, which are not opaque to x-rays, are usually dissolved naturally; occasionally they persist. The presence of renal colic, hematuria or anuria should cause one to suspect that these symptoms are due to trauma or obstruction from crystalline concretions and if anuria persists mechanical drainage and irrigation of the urinary tract may be life saving measures. These crystals dissolve readily in water or physiologic saline. If the fluid intake of the patient taking sulfapyridine is large the chance of this complication is decreased.

It occurred to me that the presence of sulfapyridine crystals in the urinary tract, with their gradual dissolution after the drug has been stopped, is a logical explanation for Dr. Hanson's observation that sulfapyridine continues to be found in the urine for several days after the blood concentration has reached zero. This also might explain the variable excretion of this drug from day to day when the intake is constant. However, additional information is needed as to the frequency with which these crystals are deposited in the urinary tract before any conclusion can be reached.

Dr. T. J. Charlton (Savannah): Dr. Hanson's splendid paper confirms the reports from other parts of the country as to the efficacy of sulfapyridine. Pneumonia is no longer the dreaded disease that it was a few years ago.

The following statement appeared in the *New York Times*, March, 1940, quoted from a report of the Metropolitan Life Insurance Company: "The pneumonia mortality experience of the insurance company's industrial policyholders for the year from September, 1928, through August, 1929, and the corresponding period in 1938 and 1939, shows the death rate in January—the pneumonia 'peak' month—dropped from more than 400 per 100,000 in 1929, to less than 100 per 100,000 in January, 1939." This is a decrease of 75 per cent.

I have a series of 26 cases of pneumonia in Negroes treated at the Georgia Infirmary, a Negro hospital. This series started in May, 1939, and goes up to the present time. All these patients received sulfapyridine. These cases were not worked up as well as Dr. Hanson's. No x-rays were taken, no blood counts, no typing and no blood cultures made. The diagnosis was made clinically. Only one of these patients died and the diagnosis was not definitely made. During that time two patients came in with the diagnosis of pneumonia who were moribund, but they did not receive the drug.

I note in Dr. Hanson's report that the two patients who died had positive blood cultures. Here the question comes up whether specific serum therapy would have been of any help. At the present time, until clinical reports prove otherwise, I think that when a patient has a positive culture and if the patient can afford the serum, that both it and sulfapyridine should be given.

One practical point about sulfapyridine is the comparative low price. One hundred tablets, 50 Gms., cost about \$5 to \$6. This is enough for two average cases. Serum therapy would cost 5-10 times as much and is out of reach of the person of moderate means and the hospital that has a limited amount of money.

If sulfapyridine is not a specific, it is at least a "near specific," and is one more drug to be added to the very small list of really useful drugs.

Dr. Joseph Yampolsky (Atlanta): About one year ago I had the privilege of reporting a series of cases where I used sulfapyridine in children. I would now like to take just a moment of your time to report some added information that I have had during the past twelve months. I followed a different course the last twelve months than in the past. That is as follows—I did not take sputum to determine the type of pneumococci present. I did not follow the concentration of blood, because I already knew the amount of sulfapyridine it takes to bring about a certain concentration, but I did examine the urine frequently in these patients for crystals.

My report is as follows: I have had between 75 and 100 cases, that includes both lobar pneumonias and bronchial pneumonias. There were no fatalities in patients where I used sulfapyridine and I feel assured now that it is a drug well worth using, especially in children.

Just a few points in regard to complications, and that is more important in children than in adults because

the gastrointestinal tract is more vulnerable in children.

Nausea can be stopped by using sulfapyridine in mixtures of orange juice or prune juice. Sodium sulfapyridine by rectum will probably get the same results. With sulfathiazol we may be able to avoid some of the complications, but I think, as a whole, it is not safe to use it because enough reports have not been published in the literature.

I think we need not be disturbed even if we find sulfapyridine crystals in the urine. Those of you who know Dr. Fletcher Hanson's work at Grace Hospital know how careful he is.

Dr. Avery M. Dimmock (Atlanta): I don't believe Dr. Hanson had time to finish his paper and perhaps he intended to go into the point which I have in mind to discuss for just a moment. I feel that the use of sulfapyridine in pneumonia has been a great boon to the physician doing internal medicine and the general practitioner. I think it has taken away a great amount of dread and fear that we had when we made a diagnosis of pneumonia. Also it has very likely taken away the dread and fear that might be in the mind of a doctor who was unfortunate enough to have pneumonia himself.

In using sulfapyridine intravenously, which is sometimes a great advantage over the use of it by mouth, in patients where nausea is present to the extent that they cannot retain the drug and also in pregnant women who are troubled with nausea and vomiting, we have found that the use of this drug intravenously has been a very great help. We figure the dosage on a basis of six hundredths of a gram per Kg. of body weight. This is made up into a 5 per cent solution and injected intravenously. Sulfapyridine cannot be boiled, therefore it must be dissolved in sterile distilled water. It is important to give this drug very slowly and we make a point never to give more than 5 cc. per minute. If this procedure is adhered to, you will seldom, I believe, have any ill effects from it. If it is necessary to repeat that dosage, it is usually done in six hours after the initial dose has been given. In our experience we have rarely found it necessary to give more than two doses in any one case. Of course, when it is possible to do so, we continue to use the drug by mouth following the intravenous treatments.

I still think it is important to type these cases of pneumonia before the drug is started and in the event the sulfapyridine has not shown a decided effect within 48 hours, I believe then it is wise to resort to the type specific serum. It is to be remembered that sodium sulfapyridine is the drug used intravenously, and when injected the sodium in the blood splits off and leaves circulating in the blood free or pure sulfapyridine. In patients who do show improvement, it is often possible to discontinue the intravenous method and continue then with the drug by mouth which carries the patient to complete recovery.

I noticed one point in my cases which seems to be interesting. Very often on the third day following the treatment there seems to be a slight rise in temperature—not in all patients but in a number of them—and in the beginning I thought that I was not using enough of

the drug or not using it properly, but I found that you need not be particularly concerned about this. Continue the dosage and the temperature comes down to normal and there is no further trouble.

Dr. J. Fletcher Hanson (Macon): In regard to statistics, it is my understanding that Merck and Company have collected data on approximately 3,000 cases of pneumococcal pneumonias treated with sulfapyridine. The mortality rate was around 5.8 per cent.

Concerning the administration of serum along with sulfapyridine it is probably best to use both in the treatment of pneumonias complicated with blood stream infections. It is generally believed that sulfapyridine is superior to serum in the treatment of patients with type III pneumonia.

DRUG SUPPLY STUDIED

To facilitate research regarding new sulfanilamide products and new synthetic drugs with antimalarial properties to make the United States independent of the Dutch East Indies quinine supply, and in order to extend work relating to opium and morphine derivatives, and various studies relating to aging and nutrition, a new division has been set up in the National Institute of Health of the U. S. Public Health Service. Dr. L. R. Thompson, Director of the Institute, announced recently.

The new unit will be known as the Division of Chemotherapy and will be headed by Surgeon W. H. Sebrell.

National defense demands relating to synthetic drugs which may be needed to supplement present supplies of opiates and quinine have prompted this measure.

Nutrition studies are now centering around the vitamin B complex. Research concerning ariboflavinosis, a vitamin deficiency disease discovered last year by Dr. Sebrell and his associates is also continuing. The far reaching applications of sulfanilamide have led to attempts on the part of the staff to discover new products derived from this drug and new uses for these modern miracles of medical science. The new division will also be concerned with studies connected with selenium poisoning. Problems related to aging, including biological changes and diseases peculiar to older people, are also a major concern of this new division.

The new Chemotherapy unit will be housed with the Divisions of Zoology and Chemistry in a laboratory building recently completed in the National Institute of Health, near Bethesda, Maryland. This new center for medical and scientific research was dedicated by President Roosevelt at an impressive ceremony last October. The building which will be used by the Chemotherapy Division is now being equipped and officers of the division are hoping that they will be able to move into their quarters early next spring.

Pan-American relationships took another step forward in the field of medicine when the Pan-American Congress of Ophthalmology was organized on a permanent basis at the meeting of the first congress in Cleveland October 11-12, under the auspices of the American Academy of Ophthalmology and Otolaryngology.

THE PRESIDENT'S PAGE



CHRISTMAS SPIRIT-WORLD WAR-COMMITTEE ACTIVITIES

This is the time of year when the Christmas spirit should be abroad in the land; that is, "Peace on Earth and Good Will Toward Men." This spirit should prevail everywhere, but never in history has this creed been less apropos than at the present time. With one hemisphere either already conquered by dictators' swords or savagely fighting to resist this fate, and the other hemisphere disrupted by preparations for war and kept uneasy and restless by activities of spies and counterspies, fifth columnists, saboteurs, and strikes, there is no such thing as peace in any land today, and good will toward one's fellow man seems to be forgotten.

But a bright spot to me in this world of turmoil is the smoothness with which our Association is functioning. Practically all of our committees are making progress. Especially hard working are the Committee for Reduction of Mortality in Appendicitis, the Post-graduate Committee, the Preparedness Committee, and the Cancer Commission.

The Post-graduate Committee is, I believe, on the verge of inaugurating a plan of post-graduate study for the doctors of Georgia which will rebound to their interest and instruction for years to come and will be a great step forward in medical education in our own State. For the first time we hope to be able to combine all the agencies that have separately heretofore tried to give post-graduate instruction into one comprehensive plan, and with some outside financial assistance (which seems assured) to give a continuous post-graduate course that will be really worthwhile and to carry this study to the doctors in their home towns.

The Preparedness Committee really has a Herculean task and is working under high pressure to catalog every doctor in the State so that the Government will know whom to call or where every doctor can render his country the most service. In this connection please allow me to urge each



committeeman on preparedness from each county to get his information into the hands of the State chairman as soon as possible.

I believe that if our people of the entire nation could realize it, whether we like it or not, "the die is cast." We have cast our lot with Great Britain, and to all intent and purposes we are in a state of war. The sooner we realize this and get down to business on a war basis, outlaw strikes, liquidate saboteurs, fifth columnists, and all who hinder our preparations, and actively help Britain with all of the aid possible, the sooner this war will be over and the quicker we will be back to normal times. Then, once again, will Christmas-time have its true meaning and "Peace on Earth and Good Will Toward Men" again reign.

With best wishes to each of you of the Medical Association of Georgia and the Woman's Auxiliary of the Association for A Joyous Christmas and a Happy New Year

J. C. PATTERSON, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

DECEMBER, 1940

DOCTORS AND INVESTMENTS

The day of the spirited span of horses and fine carriages has gone along with the doctor's Van-Dyke, long-tailed coat and high-top hat. Everywhere practitioners in that day seemed to think that success depended upon show. This idea still exists in the minds of some physicians of our time. Over-emphasized pride now displays itself in the form of fine automobiles and expensive suites of offices. The result is that many doctors struggle along burdened by much unnecessary debt which confronts them constantly, often disturbing concentration while at work and troublesome dreams while sleeping. In such a state of confusion efficiency is diminished, resulting in poorer service.

Only a small per cent of patients, when questioned for immediate reply, can call the names of their physicians' cars. Nor do they care. Their real concern centers around treatment leading to relief and cure. A waiting room or an automobile that is not conspicuously worn and out-of-date is in good taste. Therefore, following annual streamlines of furniture and automobiles is unnecessary. Monthly remittances to finance companies, the result of tickling our vanities, should be much less frequent, thus permitting us to spend more on equipment and study.

When financial success appears to smile faintly on some doctors it seems to arouse a desire to make investments in stocks, and in farms particularly. Experts often admit they do not know and mark time while snap-judgment amateurs crash. The old adage that "There is a sinkhole on every farm" is true, because farming is a science and, like medicine, requires a life study. Stockbrokers operate on the theory that stocks are to be sold and not bought, which brings to mind the adage, "Medicine is made to give and not to take." Efficiency in the practice of medicine is something to be proud of,

but it has not also developed along with it a keen sense of business judgment.

As physicians our chief aims are to help others and ourselves. In order to be most efficient we must keep physically fit which is largely the result of practicing physiologic methods to a reasonable degree. It is important to devote some time to play along with work.

Let us reflect now in the beginning of this year and resolve to adjust our affairs so that we shall not be ruled by financial fear, for it may bring unhappiness to our loved ones, to our friends, and to ourselves.

J. A. REDFEARN, M.D.

**PRIMARY PROSTATIC CALCULI IN
ADOLESCENTS AND MEN OF
MIDDLE AGE**

Primary prostatic calculi have been found responsible for many cases of persistent prostatitis in adolescents and men of middle age. Time and again we have seen patients whose prostates had been massaged month after month, and even years, without relief of their infection or symptoms, and finally the cause found to be prostatic calculi. In our own practice we have been guilty of this same thing, having found eventually, much to our chagrin, that the persistence of the prostatitis was due to the calculi themselves. In such cases massage is usually contraindicated; at least vigorous massage is, for it may produce injury, causing hemorrhage, and thus set up an irritation of the mucous membranes around the calculi, resulting in more damage.

Prostatic calculi in the aged have been frequently alluded to in the literature. These stones, as a rule, occur in conjunction with obstructive types of prostatic disease, such as hypertrophy, contracture of the vesical neck, and occasionally cancer of the prostate. Primary prostatic calculi in the adolescent and the man of middle age without hypertrophy, however, have attracted very little attention until recently.

Primary prostatic calculi form in the prostate itself. This is a separate and distinct condition from those stones which have formed elsewhere and have lodged in the posterior urethra, finally locating in

the prostate. Stones that are found in the former condition are usually multiple, whereas those in the latter are, as a rule, single. The chemistry, as well, varies, too. Accurate description has been given by a number of workers regarding the chemistry of primary stones. The nucleus is of an albuminoid nature and consists of epithelial debris, or a clump of bacteria, a blood clot, or necrotic tissue. Surrounding this nucleus are the inorganic salts, such as calcium phosphate, magnesium phosphate, potassium phosphate, and calcium carbonate. These stones are formed around the amy-laceous bodies which are usually found in all prostates. The chemistry of the secondary stones is, of course, similar to those found elsewhere in the urinary tract.

Numerous etiologic factors have been held responsible for producing primary prostatic calculi in young men. Stricture of the urethra has been found present in a small percentage of cases. Venereal diseases, such as gonorrhea and syphilis, may be a factor, but they are probably only a minor factor because fully half of these patients give no history of gonorrhea or syphilis. Tuberculosis, calculous diathesis, and dietary irregularities, have been suggested as causes. Sexual regressions, as well as sexual excesses, producing trauma and irritation of the prostate, probably account for many. Some authors seem to doubt that infection plays a very great part in the formation of prostatic calculi. However, from our experience, any patient with prostatic calculi without pus cells in the express secretion would be conspicuous by his singularity. The express secretions from the prostate and seminal vesicles in all of our cases have shown from 8-10 to an innumerable amount of pus cells per high power field. Red blood cells are frequently found in the secretion and a careful examination should be made to determine them.

Since these patients have an associated prostatitis, the symptoms, naturally, are quite similar. In addition there may be certain noteworthy signs, such as blood in the ejaculated semen, sexual symptoms as excessive desire, and not impotence, con-

trary to current literature on prostatic stones in general. No doubt this is due to the stones acting as an irritant and producing an unnatural desire, particularly since they are close to the surface. Small abscesses may occasionally be produced around these calculi due to trauma or blockage of the prostatic ducts, resulting in chills, followed by high elevation in temperature. Long automobile trips, drinking bouts, vigorous massage, etc., may be responsible for just such a complication.

The most accurate diagnosis is made by means of x-ray. The calculi may be overlooked, however, and thus one should use a special technic in order to demonstrate this condition. The x-ray tube should be tilted from 10 to 15 degrees toward the patient, centering from 2-3 inches above the symphysis. This projects the prostatic area between the coccyx and symphysis, away from the bony structures, and will usually demonstrate on films these calculi.

A rectal examination will not give the suspicious changes in the adolescent and middle-aged patient with prostatic calculi as has been found frequently reported in hypertrophy. Crepitation, as a rule, is not felt. The stones in this type of patient are not close to the capsule as in hypertrophy, but are found scattered throughout the median and lateral lobes. Most of ours have been found in the median lobe close to the posterior urethra.

When should one suspect prostatic calculi in the adolescent and middle-aged men? Well, experience has taught us to suspect them in every case with a persistent prostatitis in spite of massage and other forms of treatment that are usually given for this condition. In short, no urologic examination is complete without an x-ray examination of the prostate gland.

EARL FLOYD, M.D.

J. L. PITTMAN, M.D.

COUNTIES REPORTING FOR 1941

JACKSON-BARROW COUNTIES MEDICAL SOCIETY

The Jackson-Barrow Counties Medical Society reports the following officers for 1941:

President—W. L. Mathews, Winder.

Vice President—M. B. Allen, Hoschton.

Secretary-Treasurer—J. H. Campbell, Commerce.

Delegate—O. C. Pittman, Commerce.

BIBB COUNTY MEDICAL SOCIETY

The Bibb County Medical Society announces the following officers for 1941:

President—H. G. Weaver, Macon.
 President-Elect—R. W. Richardson, Macon.
 Vice President—Alvin E. Siegel, Macon.
 Secretary-Treasurer—A. M. Phillips, Macon.
 Delegate—H. G. Weaver, Macon.
 Delegate—Paul Kemp, Macon.
 Alternate Delegate—Thos. Ross, Macon.
 Alternate Delegate—C. K. McLaughlin, Macon.

NEWS ITEMS

THE BIBB COUNTY MEDICAL SOCIETY met at Ridley Hall, Macon, November 19. Dr. Thomas L. Ross, Jr., showed a picture, entitled "Vitamin B Complex."

DR. AND MRS. B. C. POWELL, Villa Rica, entertained many of their friends and members of the Carroll County Medical Society at their golden wedding anniversary in their home on October 27th. Doctors and their wives who attended were: Dr. and Mrs. H. G. Goodwyn, Dr. and Mrs. D. S. Reese, Dr. and Mrs. H. L. Barker, Dr. and Mrs. S. F. Scales, all of Carrollton; Dr. and Mrs. W. P. Smith, Dr. and Mrs. O. R. Styles, of Bowdon; Dr. and Mrs. T. M. Spruell, of Temple.

DR. S. C. LYNN, Savannah, attended clinics in Philadelphia and Boston during November.

DR. WM. L. DOBES announces the opening of his office in Suite 631, Candler Building, Atlanta, for the practice of dermatology and syphilology.

THE THIRD DISTRICT MEDICAL SOCIETY met at the Ralston Hotel, Columbus, November 28. Titles of papers on the scientific program included: *Tularemic Pneumonia* by Dr. W. G. Elliott, Cuthbert; *Rocky Mountain Spotted Fever*, Dr. J. C. Logan, Plains; *Intralaryngeal Injections of Iodized Oil in Treatment of Bronchial Asthma*, Dr. F. B. Blackmar, Columbus; *Recognition of Common Mental Disorders in General Practice*, Dr. Edward G. Storey, Columbus; *Interesting X-Ray Examinations—Report of Cases*, Dr. W. F. Jenkins, Columbus; *Relationship of Urologic and Other Abdominal Conditions*, Dr. Franklin D. Edwards, Columbus; *Address*, Dr. J. C. Patterson, Cuthbert, president of the Medical Association of Georgia. Members and visitors were entertained at a banquet.

DR. C. G. BUTLER AND DR. E. L. WARD, both of Gainesville, entertained the members of the Ninth District Medical Society at an "open house" in the new Eye, Ear, Nose and Throat Clinic November 6.

DR. J. H. KITE, Atlanta, was guest speaker at a luncheon of the Rotary Club November 4. He described some of the work being done for the crippled children at the Scottish Rite Hospital, Decatur, and illustrated the address with motion pictures.

DR. CLARENCE L. AYERS, Toccoa, past president of the Medical Association of Georgia, will have his cousin, Dr. Sanford E. Ayers, associated in practice with him.

DR. THOS. BOLLING GAY announces the removal of his offices to 151 Ponce de Leon Avenue, N. E., Atlanta.

DR. RALPH N. JOHNSON, Rome, has been elected to fellowship in the American College of Surgeons.

THE BIBB COUNTY MEDICAL SOCIETY met in Ridley Hall, Macon, December 3. It was an annual business meeting without any scientific papers or discussions.

THE STAFF MEETING OF EMORY UNIVERSITY HOSPITAL, Emory University, was held on December 2. The program consisted of reports of cases as follows: *Volvulus of the Omentum*, by Dr. J. D. Martin; *Subdural Hematoma*, Dr. Exum Walker; *Nephrotic Nephritis*, Dr. C. W. Strickler, Jr.

THE SIXTH DISTRICT MEDICAL SOCIETY met at Macon December 5. Titles of papers on the scientific program were: *Epidemic Pleurodynia* by Dr. Chas B. Fulghum, Milledgeville; *A Few Facts About Aviation Medicine*, Dr. W. M. Cason, Sandersville; *Treatment of Peritonitis with Sulfanilamide Per Rectum—Report of Cases*, Dr. Thomas Harrold, Macon; *The Value of X-Ray in Diagnosing Intestinal Obstruction*, Dr. Max Mass, Macon; *A Clinical Study of 100 Patients with Coronary Occlusion*, Dr. Carter Smith, Atlanta; *Diagnosis and Management of Occiput Posterior Position*, Dr. O. R. Thompson, Macon. Dr. Allen H. Bunce, Atlanta, president-elect of the Medical Association of Georgia, spoke on *Food and Its Relation to the Efficiency of Industrial Workers*.

DR. B. C. TEASLEY, Hartwell, was recently elected president of the Piedmont Postgraduate Clinical Assembly at its meeting held in Anderson, S. C.

DR. W. E. THOMASSON, Carrollton, has just returned and resumed practice after spending several weeks taking post-graduate study at Columbia University College of Physicians and Surgeons, New York City.

THE WARE COUNTY MEDICAL SOCIETY met at the Okefenokee Golf Club December 4th. Dr. W. F. Reavis and Dr. Lovick W. Pierce, both of Waycross, were hosts to the members of the Society at dinner. It was the annual meeting of the Society and only business was transacted.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, December 6. Officers were elected for the ensuing year.

DR. W. B. HARRISON, Gainesville, Hall County Commissioner of Health, was elected president of the North Georgia Public Health Association at its recent meeting held in Gainesville.

DR. M. E. WINCHESTER, Brunswick, Glynn County Commissioner of Health, spoke before a meeting of the Florida Public Health, Inc., at Tampa, December 6 on *Health Administration*.

DR. G. K. CORNWELL, formerly of Milledgeville, has moved to Eastman and associated in practice with Dr. J. Cox Wall at the Clinic Hospital.

WOMAN'S AUXILIARY : OFFICERS 1940-1941

President—Mrs. H. G. Banister, Ila.

President-elect—Mrs. Lee Howard, 625 East 44th Street, Savannah.

First Vice-President—Mrs. W. W. Chrisman, 112 Corbin Avenue, Macon.

Second Vice-President—Mrs. Fred Rawlings, Sandersville.

Third Vice-President—Mrs. D. Lloyd Wood, Dalton.

Press and Publicity—Mrs. J. Harry Rogers, 134 Huntington Road, N. W., Atlanta.

Recording Secretary—Mrs. Loren Gary, Jr., Shellman.

Treasurer—Mrs. W. Bruce Schaefer, Toccoa.

Corresponding Secretary—Mrs. L. S. Patton, Athens.

Parliamentarian—Mrs. J. E. Penland, Waycross.

Historian—Mrs. W. A. Selman, 760 Penn Ave., N. E., Atlanta.

PUBLIC RELATIONS

Mrs. H. M. Kandel, of Savannah, chairman of the Public Relations Committee of the Woman's Auxiliary to the Medical Association of Georgia, issues the following message to members:

"Public relations programs are one of the most important phases of Auxiliary work. It is the duty of this committee to inform itself concerning the activities of medical interest in other organizations, in order that they may be influenced for the good of the public and the advancement of medical science. To this end, we shall endeavor to cooperate with all such bodies in the promotion of acceptable medical affairs.

"In order to do this, it is necessary that we exert ourselves as never before that we may plan public relations and educational programs that will serve in a measure to detoxify those the profession deems undesirable. When each Auxiliary member considers herself a member of the Public Relations Committee and prepares herself to convey the message of health, as outlined by organized medicine, to the lay public; to defend the stand of the profession on matters of medical interest; and through affiliation with lay organizations, to be responsible for the presentation of authentic health information to the public, then we can look for real progress in reaching one of the major objectives of our organization, that of helping to educate the public to an understanding of modern and scientific medicine as advocated by the medical profession.

"If we accept this responsibility as individuals or an organization, we must know the things we would teach. We must know the objectives of our organization, the platform of the American Medical Association, the message contained in the booklet 'Priceless Heritage', facts about health insurance, the health needs and facilities of each community, the health interests of lay organizations. When we have informed ourselves on these subjects, we will be ready for action."

Eighth District

The meeting of the Woman's Auxiliary to the Eighth District Medical Society was held on October 8 in Douglas, Mrs. B. O. Quillian called the meeting to order. The Rev. Mr. Donohue, pastor of the Douglas Baptist church, gave the invocation; following which Mrs. J. W. Wallace

welcomed the guests; Mrs. W. F. Reavis, of Waycross, responded. The meeting was then turned over to Mrs. Louis Smith, of Lakeland, district president, who presented the following program:

"Organization and Function of the Woman's Auxiliary," by Mrs. Lee Howard, of Savannah, first vice-president of the Woman's Auxiliary to the Medical Association of Georgia and chairman of organization; songs by Mrs. Frances Gardener; readings by Miss Minnis Amelia Alderman; discussion on public relations by Mrs. Harry M. Kandel, of Savannah, chairman of Public Relations for the state group; cancer control discussions by Mrs. J. C. Metts, of Savannah, and Mrs. Lovick Pierce, of Waycross; and health films by Mrs. G. L. Loden, of Colbert, state chairman. A rising vote of thanks was given the State Board of Health for its help and cooperation in the showing of health films.

Highlights of the program were addresses by Dr. J. C. Patterson, of Cuthbert, president of the Medical Association of Georgia, on "Georgia's Health Problems," and Mrs. H. G. Banister, of Ila, president of the Woman's Auxiliary to the Medical Association of Georgia, on "Mobilize for Present Day Service to Humanity."

The following officers were elected: Mrs. T. J. Ferrell, of Waycross, president; Mrs. B. E. Collins, of Waycross, vice-president; and Mrs. T. V. Willis, of Brunswick, secretary-treasurer. Mrs. B. O. Quillian was asked to draw up a new constitution and by-laws.

Later the Coffee County Auxiliary was reorganized with the following officers: Mrs. Ray Johnson, president; Mrs. Dan Jardine, vice-president; and Mrs. Sage Harper, secretary-treasurer.

Chatham County

The meeting of the Woman's Auxiliary to the Georgia Medical Society was held on November 1 in the DeSoto Hotel Tavern Annex, the president, Mrs. J. C. Metts, presided. Several new and old members, as well as out of town guests, were introduced by Mrs. S. P. Shelton, membership chairman. Among these were Mrs. G. H. Faggart, Mrs. Gregg Smith, Mrs. C. T. Brown, of Guyton; Mrs. W. B. Wylie, Mrs. Eric Johnson, Mrs. C. A. Henderson and Mrs. J. C. O'Neill. Mrs. A. A. Morrison, Jr., was appointed to represent the Auxiliary at a Thanksgiving tea and pantry shower planned by the Sunshine Unit of

the Chatham Tuberculosis Association. Members were asked to send gifts to her.

The health film chairman, Mrs. Charles Usher, reported that two dental films had been shown to 1500 Negro children and 130 white high school girls. Mrs. J. E. Porter, chairman of Christmas cards, reported having obtained \$56.11 thus far from sales, with a net profit of \$21.07.

(Continued on Page 608)

MEDICAL ASSOCIATION OF GEORGIA

Ninety-Second Annual Session

Macon

May 13, 14, 15, 16, 1941

OFFICERS AND COMMITTEES, 1940-1941

Officers

President.....	J. C. Patterson, Cuthbert
President-Elect.....	Allen H. Bunce, Atlanta
First Vice-President.....	J. K. Quattlebaum, Savannah
Second Vice-President.....	Marion T. Benson, Jr., Atlanta
Secretary-Treasurer.....	Edgar D. Shanks, Atlanta
Parliamentarian.....	John W. Simmons, Brunswick
<i>Delegates to the A. M. A.</i>	
Wm. H. Myers (1941-42).....	Savannah
Alternate, Wm. A. Mulherin.....	Augusta
Chas. W. Roberts (1941-42).....	Atlanta
Alternate, Marion C. Pruitt.....	Atlanta
Olin H. Weaver (1940-41).....	Macon
Alternate, C. K. Sharp.....	Arlington

HONORARY ADVISORY BOARD

W. S. Goldsmith.....	President, 1915-1916
J. G. Dean.....	President, 1916-1917
E. E. Murphey.....	President, 1917-1918
J. W. Palmer.....	President, 1918-1919
J. W. Daniel.....	President, 1923-1924
F. K. Boland.....	President, 1925-1926
V. O. Harvard.....	President, 1926-1927
W. A. Mulherin.....	President, 1927-1928
C. K. Sharp.....	President, 1928-1929
Wm. R. Dancy.....	President, 1929-1930
M. M. Head.....	President, 1932-1933
C. H. Richardson.....	President, 1933-1934
Clarence L. Ayers.....	President, 1934-1935
Jas. E. Paullin.....	President, 1935-1936
B. H. Minchew.....	President, 1936-1937
Geo. A. Traylor.....	President, 1937-1938
Grady N. Coker.....	President, 1938-1939
Wm. H. Myers.....	President, 1939-1940

COUNCIL

W. A. Selman, <i>Chairman</i>	Atlanta
Z. V. Johnston, <i>Clerk</i>	Calhoun

Councilors

1. C. Thompson (1942).....	Millen
2. C. K. Wall (1942).....	Thomasville
3. Steve P. Kenyon (1942).....	Dawson
4. Kenneth S. Hunt (1942).....	Griffin
5. W. A. Selman (1943).....	Atlanta
6. H. D. Allen, Jr. (1943).....	Milledgeville
7. Z. V. Johnston (1943).....	Calhoun
8. B. G. Owens (1943).....	Valdosta
9. C. B. Lord (1941).....	Jefferson
10. Harry L. Cheves (1941).....	Union Point

Vice-Councilors

1. R. V. Martin (1942).....	Savannah
2. C. H. Watt (1942).....	Thomasville
3. J. Cox Wall (1942).....	Eastman
4. Enoch Callaway (1942).....	LaGrange
5. Marion C. Pruitt (1943).....	Atlanta
6. H. G. Weaver (1943).....	Macon
7. D. Lloyd Wood (1943).....	Dalton
8. W. F. Reavis (1943).....	Waycross
9. J. K. Burns (1941).....	Gainesville
10. C. E. Wills (1941).....	Washington

COMMITTEES

Scientific Work

Glenville Giddings, <i>Chairman</i> (1941).....	Atlanta
Wm. R. Dancy (1942).....	Savannah
Richard Binion (1943).....	Milledgeville
Edgar D. Shanks, <i>Secretary-Treasurer</i>	Atlanta

Public Policy and Legislation

Spencer A. Kirkland, <i>Chairman</i> (1941).....	Atlanta
Edgar H. Greene (1943).....	Atlanta
J. L. Campbell (1942).....	Atlanta
Edgar D. Shanks, <i>Secretary-Treasurer</i>	Atlanta
T. F. Abercrombie, <i>Director, State Department of Public Health</i>	Atlanta

Medical Defense

Marion C. Pruitt, <i>Chairman</i> (1943).....	Atlanta
B. H. Minchew (1944).....	Waycross
A. R. Rozar (1941).....	Macon
W. A. Selman, <i>Chairman of Council</i>	Atlanta
Edgar D. Shanks, <i>Secretary-Treasurer</i>	Atlanta

Hospitals

D. Henry Poer, <i>Chairman</i> (1943).....	Atlanta
Cleveland Thompson (1944).....	Millen
A. D. Little (1941).....	Thomasville
R. H. Oppenheimer (1942).....	Atlanta
L. P. Holmes (1945).....	Augusta

Sub-Committee on Hospitals

(Standardization and Insurance)

Grady N. Coker, <i>Chairman</i>	Canton
Charles Adams.....	Cordele
Richard Binion.....	Milledgeville

Revision of Pharmacopeia of U. S.

C. C. Aven, <i>Chairman</i> (1949).....	Atlanta
Allen H. Bunce (1949).....	Atlanta
Hal M. Davison (1949).....	Atlanta

Abner Wellborn Calhoun Lectureship

James E. Paullin, <i>Chairman</i> (1943).....	Atlanta
J. R. Broderick (1944).....	Savannah
Eugene E. Murphey (1945).....	Augusta
George B. Smith (1941).....	Rome
Frank K. Boland (1942).....	Atlanta

Medical Economics

J. A. Redfearn, <i>Chairman</i> (1945).....	Albany
C. W. Strickler.....	Atlanta
Major F. Fowler (1943).....	Atlanta
C. L. Ridley (1941).....	Macon
B. T. Beasley (1942).....	Atlanta
T. C. Johnson.....	Atlanta
R. V. Martin.....	Savannah
C. H. Wattt.....	Thomasville

J. Cox Wall.....	Eastman
Enoch Callaway.....	LaGrange
Marion C. Pruitt.....	Atlanta
H. G. Weaver.....	Macon
D. Lloyd Wood.....	Dalton
W. F. Reavis.....	Waycross
J. K. Burns.....	Gainesville
C. E. Wills.....	Washington

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(To arrange conference with the view of improving medical care in Georgia.)

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Neurology

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John E. Walker.....	Columbus
Jno. W. Turner.....	Atlanta

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Eustace A. Allen.....	Atlanta

Post-Graduate Study

G. Lombard Kelly.....	Augusta
Russell H. Oppenheimer.....	Atlanta
Richard Torpin.....	Augusta
Olin S. Cofer.....	Atlanta
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Lester Harbin.....	Rome
Kenneth McCullough.....	Waycross
Grady N. Coker.....	Canton
Ralph H. Chaney.....	Augusta

Study of Maternal Mortality and Infant Deaths

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Florida: Wm. W. Anderson, Atlanta; W. S. Goldsmith, Atlanta, and Chas. R. Andrews, Jr., Canton.

North Carolina: Clarence L. Ayers, Toccoa, and C. M. Sharp, Alto.

South Carolina: W. F. Reavis, Waycross; Grady N. Coker, Canton; and A. J. Waring, Savannah.

Tennessee: D. Lloyd Wood, Dalton, and Lester Harbin, Rome.

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Second District: J. R. McMichael, Quitman, Sept. 1, 1945.
Third District: Mr. R. C. Ellis, Americus, Sept. 1, 1942.
Fourth District: J. A. Corry, Barnesville, Sept. 1, 1943.
Fifth District: Mr. Robert F. Maddox, Atlanta, Sept. 1, 1942.
Sixth District: C. L. Ridley, Macon, Sept. 1, 1944.
Seventh District: W. P. Harbin, Jr., Rome, Sept. 1, 1944.
Eighth District: Henry W. Clements, Adel, Sept. 1, 1944.
Ninth District: Clarence L. Ayers, Toccoa, Sept. 1, 1945.
Tenth District: D. N. Thompson, Elberton, Sept. 1, 1943.

*Nominated by their respective district medical societies and appointed for six year terms.

STATE OF GEORGIA AT LARGE

*Pharmaceutical Association**

M. D. Hodges, Marietta, Sept. 1, 1941.
W. T. Edwards, Augusta, Sept. 1, 1941.

*Nominated by the Georgia Pharmaceutical Association.

Directory of the Medical Association of Georgia for 1940

Names of all Members and Officers are published as corrected by Secretaries of County Societies

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Binion, Richard, Milledgeville
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Bowen, U. S., Veterans' Administration
Facility, Los Angeles, Calif.
Bradford, R. W., Milledgeville
Clodfelter, T. C., Milledgeville
Cornwell, Gibson K., Eastman
Cox, C. G., Milledgeville
Davis, Edwin, Jr., French Hospital, 324
West 30th St., New York City
Echols, Geo. L., Hardwick
Evans, R. E., Milledgeville (deceased)
Fulghum, C. B., Milledgeville
Garrard, J. I., Hardwick
Hall, T. M., Milledgeville (Hon.)
Jordan, William, Milledgeville
Litton, J. H., Milledgeville
Long, H. W., Milledgeville
Longino, L. P., Hardwick
Mays, J. R. S., Spring Grove State
Hospital, Catonsville, Md.
Murphy, Iva G., Milledgeville
Oden, John W., Milledgeville
Pirkle, J. C., Camp Jackson, S. C.
Sanchez, A. S., Eatonton
Scott, W. M., Milledgeville (deceased)
Stewart, J. Benham, Milledgeville
Wheeler, G. A., Milledgeville (Hon.)
Woods, O. C., Milledgeville
Yarbrough, Y. H., Milledgeville

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Horton, A. L., Cartersville
Howell, S. M., Cartersville
Lowry, T., Cartersville
McGowan, H. S., Cartersville
Quillian, Wm. B., Jr., Cartersville
Stanford, J. W., Cartersville
Wofford, W. E., Cartersville

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Alternate Delegate Harris, Raymond

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Osborne, L. S., Fitzgerald (Hon.)
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Ware, D. B., Fitzgerald
Ware, R. M., Fitzgerald
Wilcox, W. D., Fitzgerald
Willis, G. W., Ocilla

BIBB COUNTY

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Barton, William, Ga. Casualty Bldg.,
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Bashinski, Benj., 700 Spring St., Macon
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Bazemore, W. L., 553 Walnut St.,
Macon

Boswell, W. C., 553 Walnut St., Macon
Brown, J. F., Central Hotel, Macon
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Golsan, W. R., 553 Walnut St., Macon
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 Ross, Thos. L., Jr., 700 Spring St., Macon
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 Garrison, W. H., Clarkesville
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 Jackson, J. B., Clarkesville
 Lamb, E. H., Cornelia
 Roberts, B. J., Cornelia
 Schenck, H. C., State Department of Public Health, State Office Bldg., Atlanta
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 Harper, G. T., Dewyrose, R. 2
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 Lord, C. B., Jefferson
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 McDonald, E. M., Winder, R. 3
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 Rogers, A. A., Commerce
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 Russell, Alexander B., Winder
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 Edwards, Franklin D., 1344 Second Ave., Columbus
 Gaston, Jos. H., 1409 Fourth Ave., Columbus
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 Gibson, R. L., Murrah Bldg., Columbus
 Gilliam, O. D., Doctors Bldg., Columbus

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(Asso.)
Hesner, Geo. E., Fort Benning (Asso.)
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Johnson, J. H., Murrah Bldg., Columbus
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Jordan, Willis P., Doctors Bldg.,
Columbus
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(Asso.)
Knott, Wm. C., Fort Benning (Asso.)
Mason, Richard P., Fort Benning
(Asso.)
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McDuffie, J. H., Jr., 1120 Third Ave.,
Columbus
McWhorter, M. R., 313 Fourteenth St.,
Columbus
Moses, Alice, 1413 Second Ave.,
Columbus
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Noyes, Edward A., Fort Benning,
(Asso.)
Peacock, C. A., Murrah Bldg.,
Columbus
Reimhardt, Wm. R. L., Fort Benning
(Asso.)
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Columbus
Soper, LeRoy D., Fort Benning (Asso.)
Spikes, J. L., Doctors Bldg., Columbus
Stammell, Chas. A., Fort Benning
(Asso.)
Stapleton, J. L., Doctors Bldg.,
Columbus
St. John, Clement F., Fort Benning
(Asso.)
Thompson, J. B., Jr., 1308 Third Ave.,
Columbus
Thrash, J. A., Doctors Bldg., Columbus
Threatte, Bruce, 204 Eleventh St.,
Columbus
Tillery, Bert, Swift Bldg., Columbus
Walker, Dean M., Fort Benning (Asso.)
Walker, Jno. E., Masonic Temple,
Columbus
Weaver, Wayne R., Fort Benning,
Columbus (Asso.)
Willis, J. N., Swift Bldg., Columbus
Wilson, Frank W., Fort Benning
(Asso.)
Winn, J. H., Swift Bldg., Columbus
Wooldridge, J. C., Murrah Bldg.,
Columbus
Youmans, J. R., Doctors Bldg.,
Columbus
Young, S. E., Midland

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Delegate..... Travis, W. D.

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Palmer, C. B., Covington
Sams, J. R., Covington
Travis, W. D., Covington
Waites, S. L., Covington
Wilson, Pleas, Newborn

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Parkerson, I. J., Eastman
Pirkle, W. H., Cochran
Smith, J. M., Cochran
Tolleson, H. M., Eastman (deceased)
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Whipple, R. L., Cochran
Williamson, J. G., Rhine (Hon.)

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Gary, Loren, Jr., Shellman
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Martin, Robert B., Cuthbert
Massengale, Leonard R., Lumpkin
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(Hon.)
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Augusta
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Augusta
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Augusta
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Burdashaw, Wm. J., 718 Monte Sano
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College of Medicine, Memphis, Tenn.
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Augusta
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pital, Augusta
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ministration Facility, Augusta
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Augusta
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Augusta
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Augusta
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Augusta
Kilpatrick, A. J., 407 Seventh St.,
Augusta

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 Mulherin, F. X., 1001 Greene St., Augusta
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 Volpito, P. P., University Hospital, Augusta
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 Wolfe, Dave M., 1114 Stillwood Drive, Atlanta
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 Mixson, J. F., Jr., Valdosta
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 Kennedy, B. L., Dalton (deceased)
 Little, G. H., Dalton
 Loveless, Jas. A., Davidson County
 Health Department, Courthouse,
 Nashville, Tenn.
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 Rollins, J. C., Dalton
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Sumner, G. S., Sylvester
Tipton, W. C., Sylvester
Tracy, J. L., Jr., Sylvester

NEWS ITEMS

(Continued from Page 576)

DR. S. M. HOWELL AND DR. W. B. QUILLIAN, JR., both of Cartersville, have executed a contract for the building of a modern hospital in Cartersville. When completed it will be equipped and operated by them.

DR. THOS. L. ROSS, Macon, spoke before a meeting of the Woman's Auxiliary to the Bibb County Medical Society November 19 on *New Developments in Diabetes*.

THE STAFF MEETING OF GRADY HOSPITAL, Atlanta, was held on December 10. The program consisted of a "Clinical Pathologic Program." Dr. C. C. Aven was chairman. Dr. Richard B. Wilson, Dr. Earl Floyd and Dr. Joe Read led the discussion.

DR. BEN S. READ announces the opening of offices in Suite 1001 Medical Arts Building, Atlanta. His practice will be limited to obstetrics and gynecology.

GEORGIA PHYSICIANS REGISTERED AT THE SOUTHERN MEDICAL ASSOCIATION'S LOUISVILLE SESSION

November 13-16, 1940

Alden, Herbert S., Atlanta
Allen, H. D., Jr., Milledgeville.
Anderson, Wm. W., Atlanta.
Aven, C. C., Atlanta.
Baird, J. Mason, Atlanta.
Ballenger, E. G., Atlanta.
Beasley, B. T., Atlanta.
Bishop, E. L., Atlanta.
Blackmar, Francis B., Columbus.
Bowdoin, Chas. D., Atlanta.
Bowdoin, Joe P., Atlanta.
Brandt, Robert, Augusta.
Brim, J. C., Pelham.
Brown, F. B., Savannah.
Bunce, Allen H., Atlanta.
Burgess, Taylor S., Atlanta.
Chappell, Amey, Atlanta.
Claiborne, Thos. S., Atlanta.
Clay, Grady E., Atlanta.
Compton, H. T., Savannah.
Conner, Geo. R., Columbus.
Elliott, W. G., Cuthbert.
Equen, Murdock, Atlanta.
Eubanks, Geo. F., Atlanta.
Faggart, Geo. H., Savannah.
Fincher, E. F., Atlanta.
Floyd, Earl H., Atlanta.

Gambrell, W. E., Emory University.
Greenblatt, Robert B., Augusta.
Griffin, R. B., Marietta.
Hailey, Wm. Howard, Atlanta.
Harbin, Lester, Rome.
Hart, B. F., Augusta.
Henderson, Clair A., Savannah.
Henry, C. G., Augusta.
Howard, R. S., Jr., Macon.
Hummel, J. L., Albany.
Irwin, Chas. E., Warm Springs.
Jones, Wm. R., Columbus.
Keen, O. F., Macon.
King, J. L., Macon.
Kite, J. H., Decatur.
Kracke, R. R., Emory University.
Laws, Clarence L., Atlanta.
Lowance, Mason L., Atlanta.
Lowe, Wm. R., Midville.
Lunsford, Guy G., Atlanta.
Martin, J. D., Jr., Atlanta.
Michel, H. M., Augusta.
McCarver, W. C., Vidette.
McDonald, Harold P., Atlanta.
McDuffee, J. H., Columbus.
McGee, H. H., Savannah.
McGinty, A. Park, Atlanta.
Norris, Jack C., Atlanta.
Oppenheimer, R. H., Emory University.
Paullin, Jas. E., Atlanta.
Petrie, Lester M., Gainesville.
Pruitt, Marion C., Atlanta.
Rice, Guy V., Albany.
Roberts, M. Hines, Atlanta.
Rudder, Fred F., Atlanta.
Sauls, H. C., Atlanta.
Sherman, J. H., Augusta.
Smith, Carter, Atlanta.
Smith, Inman, Rome.
Smith, M. R., Cordele.
Sydenstricker, V. P., Augusta.
Thompson, J. B., Columbus.
Townsend, Eleanor, Atlanta.
Walker, Exum, Atlanta.
Williams, L. W., Savannah.
Young, W. W., Atlanta.

The American Board of Obstetrics and Gynecology will hold written examinations and review of case histories in various cities of the U. S. and Canada, Saturday, January 4, 1941.

OBITUARY

Dr. Raymond Braxton Kicklighter, Glennville; member; University of Georgia School of Medicine, Augusta, 1928; aged 46; died October 29, 1940, at the Veterans' Administration Facility, Oteen, N. C. He was a native of Tattnall County. Dr. Kicklighter spent his entire life in Tattnall County, except time that he was in school and in the World War. He was a prominent physician and had many friends in Tattnall and adjoining counties. Surviving him are his widow, one son, Richard Kicklighter. Elder H. C. Stubbs, assisted by Rev. C. E. McDaniel and Rev. J. L. Hillis, officiated at funeral services conducted at Love Chapel Primitive Baptist Church. Burial was in the church yard of the Love Church. Members of the Tattnall County Medical Society were honorary pallbearers.

Dr. John Coskery Wright, Augusta; member; University of Georgia School of Medicine, Augusta, 1908; aged 57; died August 22, 1940. He was professor of clinical gynecology of the University of Georgia School of Medicine. Dr. Wright was one of the brilliant physicians on the faculty of the University and held in high esteem by his associates and patients.

Dr. Wilbur Moate Scott, Milledgeville; member; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, Md., 1912; aged 50; died on October 31, 1940 of heart disease. He was a native of Hancock County but had made his home in Milledgeville for seventeen years. He was in the medical corps of the U. S. Army during the World War and served overseas. After the war he returned to his home community and began the private practice of medicine, then moved to Milledgeville in 1923. Dr. Scott was prominent in social, political and religious affairs of the community. He was a member of the Baldwin County Medical Society, American Medical Association and the First Methodist Church. Surviving him are one son, W. M. Scott, Jr., student at the University of Maryland, Baltimore, Md.; three daughters, Mrs. Homer Meier, Gardners; Miss Lavinia Scott, Atlanta; and Miss Julia Scott, Decatur, student at Agnes Scott. Dr. A. M. Pierce officiated at the funeral services conducted at the home. Burial was in the city cemetery.

Dr. Owen F. Moran, Milledgeville; member; Emory University School of Medicine, Emory University, 1888; aged 74; died at his home on October 31, 1940, after a long illness. He was a native of Baldwin County. Dr. Moran practiced medicine for about fifty years. After being engaged in the private practice of medicine for a number of years, he served as Baldwin County Commissioner of Health until he retired. In addition to his duties as a private practitioner and as health commissioner, he served for many years on the board of commissioners and revenue of Baldwin County. He is survived by one daughter, Mrs. C. N. Chandler, Milledgeville; two sons, M. Newman Moran, Atlanta,

and Owen F. Moran, Jr., Charleston, S. C. Rev. J. F. McCluney officiated at the funeral services conducted at Black Springs Church of which he was a member. Interment was in the churchyard.

Dr. Charles Jefferson Woods, Macon; member; Miami Medical College, Cincinnati, Ohio, 1905; aged 60; died on November 6, 1940, at his home of heart disease. He was a native of Ohio. Dr. Woods served as an intern at St. Joseph's Hospital, Savannah, then engaged in private practice for eleven years. He gave up general practice to take special study in dermatology at the leading centers in New York City where diagnosis and treatment of this disease are taught. Dr. Woods served in the medical corps of the U. S. Army during the World War. He was the first president of the Oklahoma Dermatological Association, member of the Mississippi Valley Dermatological Association, the American Academy of Dermatology, the Bibb County Medical Society and the American Medical Association. Surviving him is his widow.

Dr. Thomas Hightower Hancock, Atlanta; member; Columbia University College of Physicians and Surgeons, New York City, 1891; aged 71; died on November 17, 1940, after a long illness. He was a native of Virginia. After he graduated in medicine, he interned at the New York Polyclinic Medical School and Hospital. He moved to Atlanta and began private practice of medicine in 1893. He founded the Atlanta Hospital, was president and chief surgeon for 25 years. During his long and useful career he was chief surgeon for the Georgia Power Company and the Southern Railway System. Dr. Hancock was a member of the Fulton County Medical Society, American Medical Association, Masons and the Episcopal Church. Surviving him are his widow, two daughters, Miss Elizabeth Hancock, Winnetka, Ill.; and the former Miss Louise Hancock, who is married and living in India; three sons, Richard Harris Hancock, John O. Hancock and Paul L. Hancock. Rev. Woosley Couch officiated at the funeral services at the Holy Comforter. Burial was in West View Cemetery.

Dr. Virgil Eugene Franklin, Graymont; member; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, Md., 1896; aged 70; died suddenly at his home on November 13, 1940. He was a native of Bulloch County and a descendant of pioneer families of Bulloch and Emanuel counties. Dr. Franklin was active in civic and religious affairs and had many warm personal friends. Surviving him are his widow, one daughter, Miss Marjorie Franklin, New York City; one son, V. E. Franklin, Jr., Swainsboro.

Dr. William Van Vorst Parramore, Cochran; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1910; aged 56; died suddenly November 27, 1940, from being hit by a train at a crossing in Cochran. He was a native of Valdosta. Dr. Parramore began practice at and served

as superintendent of the State Tuberculosis Sanitarium, Alto, for five years, then removed to Cochran. He represented Bleckley County in the General Assembly of Georgia for one term, 1933-34. He had an extensive practice and many personal friends. Surviving him are his widow and three brothers. Funeral services were conducted by Rev. A. W. Quillian, Rev. S. L. Lamm and Rev. F. B. Asbell at the Methodist Church. Burial was in Cedar Hill Cemetery.

JOHN C. WRIGHT, M.D.

The obstetrical and gynecological staff of the University Hospital and the University of Georgia School of Medicine wishes to record our appreciation of the life of Dr. John C. Wright as a member of this staff, although we are not unmindful of the service he rendered this community along other lines, especially during World War I when he served as health officer.

On account of his modesty and retiring disposition few, even of his friends and associates, realized how much he contributed to the development of medical science and medical practice in our school and community. He was a keen observer and diligent student, and manifested unusual ability in applying the results of his observation and study to the case in hand. Not only was he a thoughtful student and careful practitioner, but he exhibited kindly and thoughtful consideration for both his patients and associates that endeared him to all.

It is, therefore, fitting that we, as members of the obstetrical and gynecological staff, record in our minutes this expression of our appreciation and extend to his family an expression of our sympathy for them in the great loss they have sustained in his departure from our midst.

F. N. HARRISON, M.D.

GEORGIA STATE NURSES ASSOCIATION CONVENTION

The 34th annual joint convention of the state's professional nursing organizations was held November 11-12-13, 1940, at Albany, Georgia, with the Second District G.S.N.A. as hostess. The convention theme was "100% Professional Membership—Fully Informed." 236 nurses registered.

Miss Mary I. Campbell, R.N., Assistant Director from Headquarters of the American Nurses' Association, New York City, discussed the A.N.A. policies in regard to Control and Supervision of Subsidiary Workers. Dr. J. C. Patterson, president, Medical Association of Georgia, followed this discussion by giving the viewpoint of the medical profession in use of subsidiary workers. Other guest speakers were, Miss Virginia Elliman, assistant to director of Nursing Service, American Red Cross, Eastern Area, Washington, D. C.; Miss Alice Dugger, Southeastern Regional Field Representative, American Red Cross; Miss Lutie C. Leavell, professor, Nursing Education, Teachers College, Columbia; Miss Laura Blackburn, director and midwife consultant, South Carolina Public Health Department; and Dr. J. J. Collins, Thomasville.

The Albany Herald published a special convention

edition which gave a generous review of nursing activities in Georgia. A total of 865 inches of newspaper publicity was given this meeting in papers throughout the state. 159 subscriptions to the official magazine, The American Journal of Nursing, were secured. 2 hours and 45 minutes of radio time was given by WGPC. Discussions on the air were: "Use of the Registered Professional Nurse," "Red Cross Nurse and National Defense," "Standards of Nursing Service" and "Preparation of the Nurse."

Some of the special actions taken were as follows:

1—After several years intermission, the G.S.N.A. will resume the monthly Nurses' Section in The Journal of the Medical Association of Georgia.

2—Approximately 600 Professional Guidance folders on Nursing and Nursing Education will be made in 1941 and distributed to each high school and college in Georgia.

3—An Institute on registry operation will be held early in 1941.

4—The third annual statewide Open House will be held at State Headquarters in Atlanta for all 1941 graduates of the 14 accredited schools of nursing in Georgia.

5—A new mimeograph machine will be purchased so as to expand this service to all Districts and Alumnae Associations.

6—Recommendations were endorsed from the Subsidiary Workers Committee which are as follows: To follow as closely as possible the A.N.A. policies and to make every effort to control and supervise subsidiary workers. These workers should be prepared on the job for the job, and all who nurse for hire should be registered in such a way as to clearly indicate to the public their qualifications.

7—Final details were completed for issuing scholarship loan funds from the \$1,000 previously set aside.

The social functions were many and enjoyable. The Hobby Fair was outstanding. The exhibits indicated intelligent and worthwhile planning of teaching programs to increase the efficiency of nursing service.

The 1941 convention will be held at Gainesville with the Ninth District as hostess.

Miss Frieda Grefe of Savannah, is president of the Georgia State Nurses' Association, and Miss Durice Dickerson is executive secretary, with headquarters at 131 Forrest Ave., N. E., Atlanta.

DURICE DICKERSON, R.N.,

Executive Secretary,

Georgia State Nurses' Association.

THE SCHOOL-CHILD'S BREAKFAST

Many a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pablum (Mead's Cereal cooked and dried). Six times richer than fluid milk

(Continued on Page 608)

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Protein S.M.A. (acidulated) is similar to both casein milk and lactic acid milk, but presents additional nutritional elements lacking in both.

Normal infants relish S.M.A. . . . digest it easily and thrive on it.

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in calcium, ten times higher than spinach in iron, containing vitamins B₁ and C. Pablum furnishes protective factors especially needed by the school-child. The ease with which Pablum can be prepared enlists the mother's co-operation in serving a nutritious breakfast. This palatable cereal requires no further cooking and can be prepared simply by adding milk or water of any desired temperature.

Mead Johnson & Company, Evansville, Indiana, U. S. A.

WOMAN'S AUXILIARY

(Continued from Page 578)

The president announced that a course in parliamentary procedure is being given at the Waters Avenue school by Mrs. Lee Howard and that several Auxiliary members are attending.

Members were invited to a tea on November 4 at the home of Mrs. J. C. Metts. This was a social event at which old and new members became better acquainted. Mrs. S. P. Sanford is general chairman. Mrs. Metts was assisted by Mrs. S. Elliott Wilson, Mrs. Lee Howard, Mrs. W. R. Dancy and Mrs. Ralston Lattimore.

Mrs. H. M. Kandel, chairman of the State Public Relations Committee, urged all members to listen to the series of radio broadcasts on health topics every Wednesday at 8 p.m., this being sponsored by the Savannah-Chatham County Health Department and the Georgia Medical Society.

Fulton County

Mrs. Fred Rawlings, of Sandersville, second vice-president of the Woman's Auxiliary to the Medical Association of Georgia and chairman of Hygeia, spoke on the important health magazine at the November meeting of the Woman's Auxiliary to the Fulton County Medical Society. The meeting, over which Mrs. Olin S. Cofer, president, presided, was held at Habersham Hall in Atlanta and opened with a prayer by the chaplain, Mrs. W. A. Selman. Routine reports were given and Mrs. Martin Myers reported \$94.15 realized from the antique glass exhibit held recently at Mrs. O. H. Matthews' home. Members voted to buy towels to assist the Workers for the Blind. Mrs. Emory G. Lower was appointed chairman. Mrs. Eustace A. Allen, chairman of revisions, read the complete revisions of the constitution and by-laws, members voted to accept these. Later luncheon was served with Mrs. W. W. Anderson and Mrs. Dan Y. Sage, co-chairmen of the courtesy committee, and that committee in charge.

Richmond County

The Woman's Auxiliary to the Richmond County Medical Society met for its October meeting at the home of Mrs. W. E. Matthews in Augusta. Plans were made for a large dance, which was given on October 25 and which proved a financial and social success. The November meeting was a social meeting, with members of the Dental and Druggist Auxiliaries invited.

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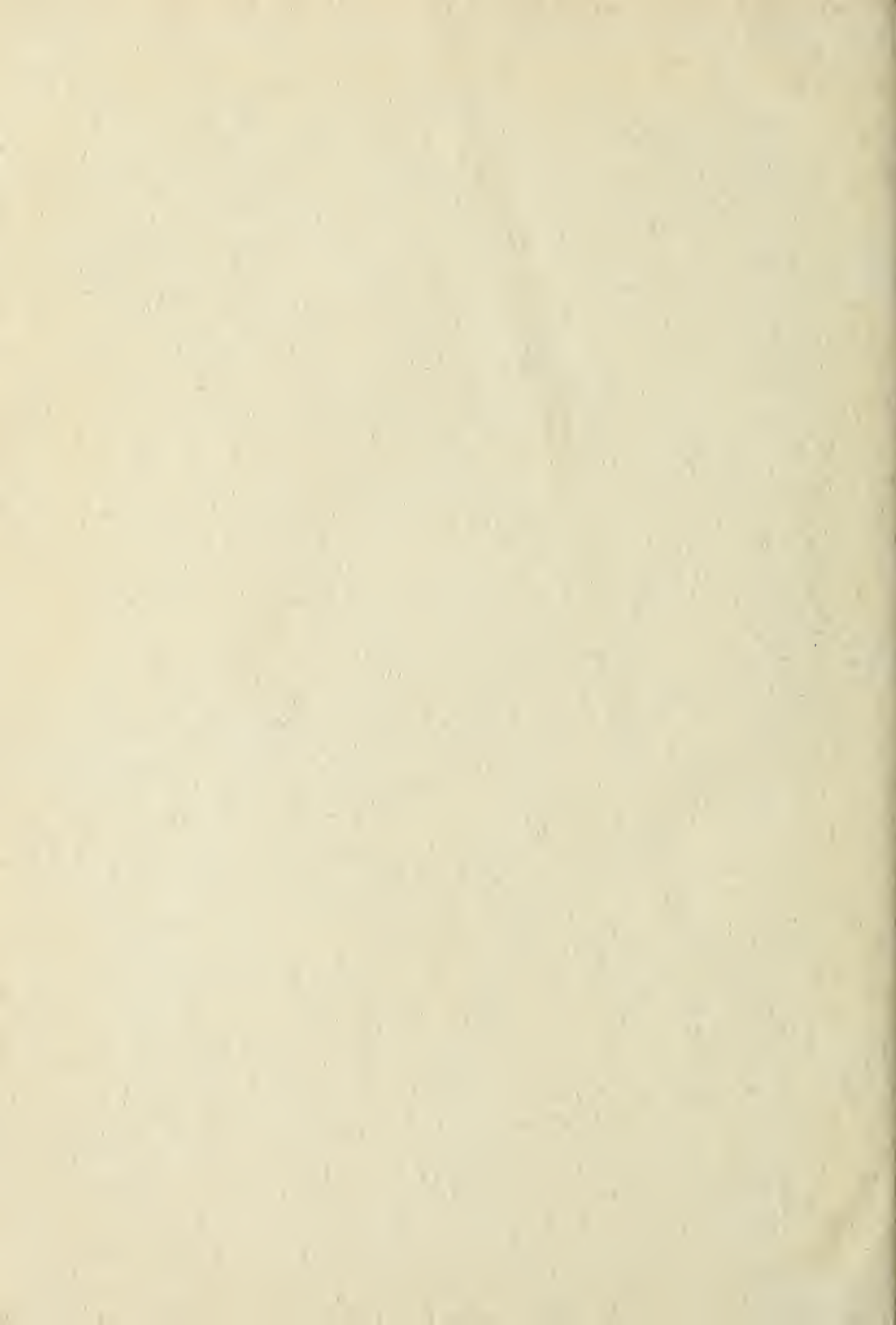
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